

*Asian Security Studies*

# **RESHAPING THE CHINESE MILITARY**

**THE PLA'S ROLES AND MISSIONS IN  
THE XI JINPING ERA**

Edited by  
Richard A. Bitzinger and James Char



# Reshaping the Chinese Military

This edited volume examines the recalibration of the People's Liberation Army's (PLA) roles and missions in China's domestic and foreign policymaking since Xi Jinping's ascension to power in late 2012.

This book explores how China's growing military prowess, along with Beijing's ongoing shift away from "keeping a low profile," owes much to the policies of the China's Communist Party under Xi Jinping's leadership. The chapters in the book share a central theme: the recalibration of the PLA roles and missions since Xi Jinping assumed the trifecta of party–state–military power. These contributions seek to explore in depth some of the key issues and scrutinize the enhancements in the PLA's operational capabilities, both in terms of its hardware as well as its "heartware" – the human elements of its development such as operational culture and doctrine. In all, the chapters document the transformative change the PLA has undergone since the profound realization of its previous limitations vis-à-vis the United States' advanced military operations of the previous century as well as pointing to continuity amid change.

This book will be of much interest to students of strategic studies, Chinese politics, Asian security, defense studies, and international relations, in general.

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**For Eve, always**

**– R.A.B.**

**For my parents**

**– J.C.**



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- Richard A. Bitzinger: *Reforming China’s Defense Industry*, Vol. 39, Issues 5–6 (2016).
- Tai Ming Cheung: *Innovation in China’s Defense Technology Base: Foreign Technology and Military Capabilities*, Vol. 39, Issues 5–6 (2016).
- Kevin Pollpeter: *Space, The New Domain: Space Operations and Chinese Military Reforms*, Vol. 39, Issues 5–6 (2016).
- Phillip Saunders and Julia Bowie: *US–China Military Relations: Competition and Cooperation*, Vol. 39, Issues 5–6 (2016).
- You Ji: *The Sino–US ‘Cat-and-Mouse’ Game Concerning Freedom of Navigation and Flights: An Analysis of Chinese Perspectives*, Vol. 39, Issues 5–6 (2016).

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# Introduction

## Reshaping the Chinese military under Xi Jinping

*Richard A. Bitzinger and James Char*

Less than three years into his tenure as chairman of the Central Military Commission (CMC), Chinese President Xi Jinping played host to a significant event on September 3, 2015. Under the pretext of commemorating the 70th anniversary of China's victory in World War II, Beijing witnessed a grand public display of the country's most advanced weaponry as the Chinese People's Liberation Army (PLA) flaunted its achievements from more than two decades of military modernization. While the event was portrayed by China's state media as testament to Beijing's commitment to peace, most foreign assessments saw it as a demonstration of the PLA's growing offensive capabilities. Indeed, it is widely believed that the ruling Chinese Communist Party (CCP) will continue to devote increasingly greater resources to further effect qualitative improvements to its coercive forces and enhance the PLA's combat capabilities, in accordance with the civilian leadership's desire to develop China into a maritime power.<sup>1</sup>

China's growing military prowess, along with Beijing's shift away from "keeping a low profile," owes much to the policies of China's party-state, in particular, the continued expansion of the Chinese economy; a concomitant increase (in real terms) of military expenditure; and, above all, a strong and unwavering commitment on the part of China's civilian leadership to build a powerful, modern armed forces. To be sure, this military buildup has been matched by Beijing's noticeably more assertive behavior in the East and South China Seas and can be accounted by improvements in Chinese military hardware and enhancements to two of the PLA's previously neglected services: the PLA Navy (PLAN) and the PLA Air Force (PLAAF). While structural changes to the Chinese military in terms of its materiel and power projection capabilities have heightened the prospects for it to play a key role in Beijing's foreign and security policymaking,<sup>2</sup> its new commander-in-chief has synchronously taken a noticeably greater interest in harnessing the PLA as a foreign policy instrument to complement Chinese economic diplomacy.

The chapters in book share a central theme: the recalibration of the PLA's roles and missions since Xi Jinping assumed the trifecta of Chinese party-state-military power. First presented at the conference "Reshaping the PLA since the 18th Party Congress" organized by the S. Rajaratnam School of International Studies (RSIS) in October 2015, these contributions seek to explore in greater

depth some of the issues aforementioned and scrutinize the enhancements in the PLA's operational capabilities, both in terms of its hardware as well as its "heart-ware" – the human elements of its development such as operational culture and doctrine. Alongside the growth of Chinese comprehensive power in the diplomatic, economic, military, and soft power realms, the analyses that follow detail how the PLA's threat perceptions have evolved and how China's military elites have been planning for present and future contingencies. In light of recent developments, these chapters could not have come at a more opportune time for PLA watchers who study how Chinese military planners perceive the international security landscape as they continue to reconfigure their national strategies to mitigate those risks. In all, the chapters document the transformative change the PLA has undergone since the profound realization of its previous limitations vis-à-vis the US' advanced military operations of the previous century.<sup>3</sup> They detail the enhancements in the PLA's stronger technological base and evolving doctrine, spurred on by Chinese national desire for "powerful armed forces which are commensurate with China's international standing and meet the needs of its security and development interests."<sup>4</sup> Indubitably, these changes will privilege the CCP leadership with additional (martial) options as Beijing mitigates the risks and challenges arising from its growing global economic clout in an increasingly complex security environment.<sup>5</sup>

Nevertheless, the chapters also point to continuity amid change. Being a party instrument, the PLA's conservatism and adherence to empiricism also means that it can be expected to remain acquiescent to the overall foreign and security policy stipulated by its civilian masters.<sup>6</sup> From a purely military angle as well, problems in its power projection capabilities have likewise persisted. While it has been tasked with a significantly greater number of missions further away from the Chinese mainland, diminishing marginal returns as a technological late-comer coupled with persistent shortcomings in China's defense-industrial sector inherently mean that the PLA will continue to face challenges in reconciling the conflict between acquiring cost-effective quality armaments and realizing defense-industrial autarky. Greater still, Chinese military leaders themselves present perhaps the greatest barrier before the PLA can realize its potential. It would be remiss to overlook the fact that Xi waited three years after he first assumed power over the party's coercive forces before his calls to reform this interest group grew louder.<sup>7</sup> Whereas there may have been utility in the time lapse in allowing him to prepare his troops for change, it is plausible that he first had to consolidate his civilian authority over the military to overcome elite resistance within its ranks.<sup>8</sup>

Surveying the key themes in the field, this brief introduction will attempt to summarize the findings of the chapters, namely: (1) the politics of the PLA, in particular, the state of Chinese civil-military dynamics following Xi Jinping's declaration of war against military malfeasance; (2) the role of the PLA in China's foreign and security policymaking, focusing on the military aspects of Chinese activities in recent regional flashpoints and the PLA's role in Beijing's efforts to build a "new type of great power relations" with Washington; as well

as (3) the Chinese military's growing professionalism, pertaining to new developments in its power projection capabilities in the period up to the recently announced administrative and operational reforms, in addition to those enhancements to the PLA's defense technology base in the larger scheme of the country's defense-industrial complex. These augmented capacities of the Chinese military corps will be crucial if Beijing's strategic depth is to successfully catch up with its present global economic heft.<sup>9</sup>

### **Politics of the PLA and Chinese civil-military relations**

In assessing the CMC chairman's signature anti-corruption campaign since his ascension to power, Char's exposition of the strategic interactions between Chinese civilian and military elites<sup>10</sup> documents the *modus operandi* in Xi Jinping's purge of the very institution that would determine his political survival calculus. Having witnessed the lackluster "reign without rule" of Hu Jintao – in large part due to the former commander-in-chief's lack of military authority – the incumbent has since maneuvered against PLA leaders who had disobeyed civilian authority under the previous administration. In so doing, Xi has combined psychological intimidation with institutional mechanisms to impose authoritative civilian control over the military as well as strengthen his own powerbase to dominate his civilian rivals in the Chinese party-state. Changes to civil-military dynamics, however, are still at a nascent stage, and it remains unclear whether the CMC chairman's growing clout would translate into meaningful changes to the PLA's organizational structure and operational culture over the longer term. Nevertheless, Char rightly points out that Xi's strongman persona and hands-on approach in national security reforms now places him in a stronger position than any other Chinese leader in the post-Reform era to reshape the CCP's coercive forces.

Shortly after the CCP's 18th Party Congress in the fall of 2012, Taiwan saw its own political transition in January 2016. Indeed, at the intersection of party-military dynamics in China and cross-Straits relations, questions arose over whether Xi Jinping would be able to rein in the PLA, and its implications on the PLA in China's Taiwan policymaking. In addressing the potential impact of Taiwan under Tsai Ing-wen's Democratic Progressive Party on China's cross-Straits policy and the role of the PLA, Ding argues that through a carrot and stick approach, Xi has been able to rein in the PLA. Indeed, his proactive and assertive approach in the context of China's growing capabilities has also empowered him to control the discourse of the CCP's Taiwan policy. In that regard, the PLA will continue to be one joint actor within the relevant apparatus executing Taiwan policy without its own agenda. Uncertainty as a result of the ruling party rotation in Taiwan is unlikely to change the PLA's role.

### **The PLA in Chinese foreign and security policymaking<sup>11</sup>**

That the strategic nature of the bilateral state-to-state and military-to-military relations between Beijing and Washington now impinges on global security is



without doubt. In the two contributions on Sino–US military interactions by You as well as Saunders and Bowie, there is growing evidence suggestive of the increasing attention China’s civilian leadership has accorded military elites coinciding with Beijing’s shift toward a more ambitious foreign policy. As China continues to reconfigure its national strategies to mitigate the challenges in an increasingly complex security environment – of which its defense planners perceive US military presence in the region as the most threatening – You’s attempts at situating the causality behind PLA response toward US surveillance in the South China Sea is a sombre reminder of the potential for the peer competitors to enter an irreversible freefall in bilateral ties. Referring to the US military’s close-in reconnaissance activities in China’s coastal waters and the PLA’s corresponding intercepts as a “cat-and-mouse” game, You acknowledges that while the US and China clearly value their overall bilateral relations, deep strategic mistrust and military activities at the operational level ultimately means that crisis management mechanisms at present may become difficult to maintain in future.

Continuing with the negative outlook, Saunders and Bowie proffer that – despite the fact that a number of platforms between the PLA and its American counterpart have been facilitated – China’s attempts at building a “new type of military-to-military relations” and more generally, a “new type of great power relations,” are yet to constitute a major turning point in Sino–US relations. While the two have been able to establish a number of potentially important memoranda of understanding, increasing military competition in the space, cyber, and nuclear domains, coupled with increasing air and naval interactions between their militaries, invariably means that a previous pattern of on-again, off-again military relations continue to persist.

Complementing the two chapters, Yuan’s chapter on the PLA’s worldview puts forth that Western discussions of China’s internal debates on national security typically characterize the views of the Chinese military establishment as hawkish and hardline, driven by its institutional interests focusing on securing more resources with the concomitant objective of elevating its status in decision-making at the highest level. In assessing the national security concerns of the PLA – being an important institution and understandably a strong interest group within the larger framework of China’s decision-making process, policy formulation, and implementation – Yuan notes of its different emphases, but nevertheless holds that China’s military elites, by and large, comply with and follow the overall foreign and security policy stipulated by their civilian masters. To the extent that the PLA seeks to influence policy, this is largely effected via its consultative role in providing professional assessments in areas where it clearly has the expertise.

### **PLA professionalism: power projection and procurement**

The chapter by Pollpeter charts the progress of the PLA from a military angle.<sup>12</sup> Following the theme of conducting modern warfare, Pollpeter analyzes a new

theater of war, and highlights how the space domain – as one of five components constituting a major military threat to Beijing (the others being conventional, nuclear, nuclear-conventional, and cyber) – has been alluded to by Chinese military strategists as “a commanding height in international strategic competition.” In particular, the CCP leadership has prioritized the advancement of the PLA’s capabilities in space, with the latter having been set a target of achieving a global, 24-hour, all-weather earth remote sensing system by 2020. Having established the PLA Strategic Support Force to command its space forces, Pollpeter cautions that the higher priority given to this new theater – coinciding with similar moves by the US – may constitute dangerous escalatory elements to potential confrontations in this new war domain between the two militaries.

Cheung, Bitzinger, and Boutin, in their respective chapters on China’s defense economics,<sup>13</sup> all note of progress and problems in China’s defense-industrial sector with regard to the PLA’s procurement. Cheung observes that Beijing’s recent successes in acquiring and exploiting foreign technologies have enabled China’s defense-industrial complex to shorten its research and development by as much as five years. Utilizing a four-step strategy of introduction, digestion, assimilation and re-innovation (or IDAR, for short), Cheung emphasizes that China seems to be able to meet most of its short-term defense needs for now. Nonetheless, challenges stemming from institutional weaknesses inherent in the Chinese defense-industrial complex and a dearth of regulatory frameworks could yet hamper its national defense building.

Bitzinger’s treatise on the PLA and Chinese defense industry reforms reaffirms the CCP civilian leadership’s desire to hone the PLA’s overall war-fighting capabilities. In spite of the increasing costs of development and production concomitant with indigenous research and development of the PLA’s most advanced weapons systems, Bitzinger states that Beijing, regardless, has made research, development, and acquisition a key objective, and simultaneously shifted from imitation toward innovation. While it has achieved less than desirable outcomes in the design, development, and manufacture of advanced conventional armaments, Chinese civilian and military elites – driven by a common desire to make armaments production more efficient and cost-effective – have become even more motivated to experiment with additional reforms in this sector in an attempt to upgrade their country’s technology base and defense manufacturing capabilities.

Likewise, Boutin takes a similar tack, addressing the deepening of economic reforms in China that he postulates have been transforming its defense-industrial base. He argues that such efforts at the progressive “marketization” of state-owned enterprises (SOEs) are prompting the former to become more efficient and less reliant on state subsidies, and as defense-related research and development and production by non-state enterprises increases. While this transformation presents particular advantages, there is also cause for concern that through its effect of exposing the defense-industrial base to exogenous political and economic forces, there is also a possibility that its own autonomy might be compromised. Indeed, while the PLA has a strong interest in maintaining an

autonomous defense–industrial base, its scope to pursue this outcome remains limited by its defense–industrial requirements, the space provided by political authorities, and the prevailing international security environment.

## Concluding remarks

While much of the prevailing analyses on the regional security landscape have hitherto focused on Beijing’s emergent naval capabilities<sup>14</sup> – and fittingly so – it is equally vital to scrutinize other lesser-known aspects of the PLA’s development. The chapters in this book intend to illuminate other larger “black boxes” in the study of ongoing trends in the field of PLA studies and bring us closer to a more authoritative assessment of China’s prospects of attaining the two centenary goals in Xi Jinping’s “China Dream” in reclaiming China’s position as one of the world’s leading powers. In light of the regime’s increasingly muscular approach in building islands in the South China Sea and its growing sophistication in launching cyber campaigns, our study also provides clues about the role of the military in China’s elite decision-making. It is our hope that these chapters on the PLA’s strategic recalibration will help lay the groundwork for glimpsing into the longer-term prospects for it to transform into a professional fighting force akin to most contemporary militaries at the conclusion of Xi’s tenure, and thereafter.

If anything, the writings reaffirm that – outstanding inadequacies in its hardware and “heartware” notwithstanding – enhancements to the PLA in the period hitherto have since provided Beijing with the means to deal with a greater number of contingencies and new missions further away from its mainland. While there remains much room for improvement before the PLA can hope to conduct complex informationized joint operations encompassing all domains, the process of strengthening and consolidation can be expected to continue. Despite the challenges that lie ahead (under the specter of China’s slowing economic growth), the latest military reforms are indicative of the CCP’s resolve to effect fundamental transformations of its armed wing. Whereas Dengist economic reforms may have provided the platform for the PLA’s improved materiel capabilities, the military modernizations initiated by Xi following the 18th Party Congress have set the stage for reshaping the PLA into a force on par with the world’s leading militaries. Indubitably, the Chinese military is now at a critical phase of its evolution, and its success – or lack thereof – will have a bearing on whether China adheres to its strategic values of “peace” and “development” as its martial prowess continues to improve.

## Notes

- 1 The official work report of the 18th Party Congress elevating Xi Jinping to the apex of Chinese leadership is notable for its declaration to develop Beijing into a maritime power. See “Hu Calls for Efforts to Build China into Maritime Power,” *Xinhua*, November 8, 2012.
- 2 It has been documented, for instance, that Beijing continues to indulge its military elites’ predilection for assertive rhetoric, despite such actions playing into the hands

- of Washington's rebalance. Li Mingjiang, "The People's Liberation Army and China's Smart Power Quandary in Southeast Asia," *Journal of Strategic Studies* 38/3 (2015), 359–382.
- 3 A number of single-authored studies of the PLA, including You Ji, *The Armed Forces of China* (New South Wales, Australia: Allen & Unwin, 1999) and David Shambaugh, *Modernizing China's Military: Progress, Problems, and Prospects* (Berkeley, CA: University of California Press, 2002) depict the first Persian Gulf War as a turning point in China's military modernizations in the contemporary era.
  - 4 State Council 2013. Beijing surpassed Tokyo as the world's second-largest economy in 2010. See "China Passes Japan as the Second-largest Economy," *New York Times*, August 15, 2010.
  - 5 According to the State Council's (2015) *China's Military Strategy* (Beijing Foreign Languages Press, 2015), "Building a strong national defence and powerful armed forces is a strategic task of China's modernization drive and a security guarantee for China's peaceful development." In no uncertain terms, a *Global Times* editorial underlined the importance of a strong military force lest "the outside world will only consider that peace is only [China's] compulsory choice." See "Military Reshuffle Carries Deep Significance," *Global Times*, February 2, 2016.
  - 6 Phillip C. Saunders and Andrew Scobell, "Introduction: PLA's Influence on China's National Security Policymaking," in Phillip C. Saunders and Andrew Scobell (eds.), *PLA Influence on China's National Security Policymaking* (Stanford, CA: Stanford University Press, 2016), 10.
  - 7 "Xi Jinping zai zhongyang junwei gaige gongzuo huiyi shang qiangdiao quanmian shishi gaige qiangjun zhanlue jiangding buyi zou Zhongguo tese qiangjun zhi lu" (At CMC Reform Work Conference, Xi Jinping Stresses the Comprehensive Implementation of Reform Strategies to Strengthen the Military Unswervingly with Chinese Characteristics), *PLA Daily*, November 27, 2015. The latest PLA reforms were officially announced in late November 2015, three years after Xi became CMC chairman. It ought to be noted that the restructuring was first mooted at the Third Plenary Session of the 18th Central Committee, and prior to that, at the moment of China's political transition in 2012. See "Full Text of Hu Jintao's Report at 18th Party Congress," *Xinhuanet*, November 17, 2012.
  - 8 Li, Cheng, "Promoting 'Young Guards': The Recent High Turnover in the PLA Leadership (Part 1: Purges and Reshuffles)," *China Leadership Monitor* 48 (2015), 1–14. The view that Xi first had to consolidate his grip on the PLA before reshaping it is shared by prominent Chinese scholars and senior PLA officers with whom the authors have spoken. However, resistance continues as evinced by a commentary in the *PLA Daily* alluding to the "lack of discipline" within the rank-and-file. See "Zhan-sheng zhi lu" (Road to Winning Wars), *PLA Daily*, December 14, 2015. As things stand, the new theater commands continue to be dominated by ground forces officers.
  - 9 The *PLA Daily* has highlighted that while China's national defense and military capacity building may have improved significantly, military power remains a "deficit" among other indicators of Chinese comprehensive strength, adding that "economic development" and "national defense building" should jointly proceed and together embody China's "key strategic goals." See "Tongchou tuijin jingji jianshe he guofang jianshe ronghe fazhan" (Promote the Overall Development of Economic Construction and National Defense Construction Convergence), *PLA Daily*, August 12, 2016.
  - 10 Scholarly assessments of the CCP–PLA dynamic can be found in David Shambaugh, "The Soldier and the State in China: The Political Work System in the People's Liberation Army," *The China Quarterly* 127 (September 1991), 527–568, James Mulvenon, "China: Conditional Compliance," in Muthiah Alagappa (ed.), *Coercion and Governance: The Declining Political Role of the Military in Asia* (Stanford, CA: Stanford University Press, 2001), 317–335, and Ellis Joffe, "The Chinese Army in Domestic Politics: Factors and Phases," in Nan Li (ed.), *Chinese Civil–Military*

*Relations: The Transformation of the People's Liberation Army* (Abingdon: Routledge, 2006).

- 11 On the PLA's influence in China's foreign policy, see Michael D. Swaine, "China's Assertive Behaviour Part Three: The Role of the Military in Foreign Policy," *China Leadership Monitor*, 36 (2012), 1–17; You Ji, "The PLA and Diplomacy: Unravelling Myths about the Military Role in Foreign Policy Making," *Journal of Contemporary China*, 23/86 (2014), 236–254; and more recently, Phillip C. Saunders and Andrew Scobell (eds.), *PLA Influence on China's National Security Policymaking* (Stanford, CA: Stanford University Press, 2016).
- 12 Some of the previous studies on Chinese power projection include M. Taylor Fravel, "Securing Borders: China's Doctrine and Force Structure for Frontier Defence," *Journal of Strategic Studies*, 30/4–5 (August–October, 2007), 705–737; Thomas G. Mahnken, "China's Anti-Access Strategy in Historical and Theoretical Perspective," *Journal of Strategic Studies*, 34/3 (June 2011), 299–323; and Thomas J. Christensen, "The Meaning of the Nuclear Evolution: China's Strategic Modernization and US–China Security Relations," *Journal of Strategic Studies*, 35/4 (August 2012), 447–487.
- 13 Other notable analyses include Tai Ming Cheung, "The Chinese Defence Economy's Long March from Imitation to Innovation," *Journal of Strategic Studies*, 34/3 (June 2011), 325–354; James Mulvenon and Rebecca Samm Tyroler-Cooper, "China's Defence Industry on the Path of Reform" (Washington, DC: US–China Economic and Security Review Commission, October 2009); and Tai Ming Cheung, "Dragon on the Horizon: China's Defence Industrial Renaissance," *Journal of Strategic Studies*, 32/1 (February 2009), 29–66.
- 14 See, for example, Alessio Patalano and James Manicom, "Rising Tides: Seapower and Regional Security in Northeast Asia," *Journal of Strategic Studies*, 37/3 (2014), 335–344.

# 1 Chinese civil–military relations

## Xi Jinping’s anti-corruption campaign and the People’s Liberation Army

*James Char*

A month after meeting Xi Jinping in Beijing, the commander-in-chief of the world’s most powerful military paid his Chinese counterpart the ultimate compliment. According to Barack Obama, “[Xi] has consolidated power faster and more comprehensively than probably anybody since Deng Xiaoping,” and “everybody’s been impressed by his clout inside of China after only a year and a half or two years.”<sup>1</sup> That the spectacular rise of the Central Military Commission (CMC) chairman following the 18th Party Congress of the Chinese Communist Party (CCP) has cemented Xi’s status as China’s new paramount leader since Deng Xiaoping is not in doubt; academe and media alike respectively proffer that Xi is “a very confident and strong leader” and “not to be thought of as simply a first among equals.”<sup>2</sup>

Xi’s emergence as China’s new paramount leader since Deng Xiaoping would not have been possible without first securing control of the party’s gun.<sup>3</sup> Prior to his acknowledgment of a purported political conspiracy against him,<sup>4</sup> the new leader has instituted a number of measures to secure his political status. The factional strife among civilian elites that saw the elimination of another CCP aristocrat preceding the leadership transition makes clear the importance of the party’s coercive forces to his political survival calculus. With Bo Xilai’s arrest contingent on PLA support,<sup>5</sup> China’s top leader has – apart from neutralizing China’s internal security agencies<sup>6</sup> – strengthened his grip on the Chinese People’s Liberation Army (PLA). Since Xi’s ascension, however, the PLA has found itself in a sweeping anti-corruption campaign alongside other party–state bureaucracies; two of its former leaders, Generals Guo Boxiong and Xu Caihou, and more than 200 senior officers up to the grade of deputy-Military Region (MR) leader,<sup>7</sup> have been implicated since 2013.<sup>8</sup> Unlike the former civilian commander-in-chief, Hu Jintao, who was unable to assert his authority in party and government affairs due to his weak control of the corps, Xi has built up factional support within the central military leadership,<sup>9</sup> lest he also suffer Hu’s fate.

It was equally crucial – if not more important – to also take to task those who had challenged civilian authority.<sup>10</sup> But given a key feature of Xi’s tenure is the strong allure of the PLA as his powerbase, why then has he purged the very institution that would ensure his political longevity? What was the state of civil–military ties under the previous administration, and what were the consequences

of the PLA's "conditional compliance" under the post-revolutionary leaders – Hu and Jiang Zemin – before the 18th Party Congress? Certainly, changes in civilian control inherited from the Jiang-Hu eras following the civil–military bifurcation in post-Reform China had forced Xi's hand to unravel the institutional flaws that had crept into CCP–PLA interactions. But what, apart from a crisis of legitimacy, had influenced Xi's actions? And to what extent has he been successful in bringing civilian authority back in civil–military interactions after assuming the trifecta of party–state–military power? This chapter advances the key determinants of the emerging dynamic between China's civilian and military elites, and analyzes the politics behind the fight against military malfeasance.

### **Conceptualizing contemporary CCP–PLA relations**

That the CCP has dominated China since 1949 means the civil–military dynamic in the country remains as *party–military* relations.<sup>11</sup> This chapter prescribes that the best term to describe current civil–military relations is You Ji's notion of "conditional subjective control."<sup>12</sup> Whereas objective control of the gun has developed to curtail excessive politicization, its inherent limitations necessarily mean that subjective control has remained more viable.<sup>13</sup> Other than the Mao Zedong/Deng Xiaoping interregnum, and during the transition first from Deng to Jiang Zemin, and then from Jiang to Hu Jintao, military authority has been the prerogative of China's pre-eminent leader by virtue of his command of the gun.<sup>14</sup> Unlike Mao and Deng, however, the post-revolutionary leaders, Jiang and Hu, possessed neither revolutionary credentials nor extensive personal ties to the PLA leadership prior to their CMC appointments, leading to the detachment of military elites from their civilian counterparts in the post-Deng era. This CCP–PLA divide is accentuated further with the CMC operating outside the Politburo,<sup>15</sup> as soldiers gain career advancement increasingly based on professional expertise.<sup>16</sup>

While stronger personal connections within the party establishment – as the "Princeling" scion of a former revolutionary – has helped Xi Jinping consolidate authority over the PLA,<sup>17</sup> his concurrent assumption of party–state–military power certainly supported his cause.<sup>18</sup> While the notion of "conditional compliance" applies to Xi<sup>19</sup> – since he too shares the lack of military credentials à la Jiang and Hu – events since November 2012 have demonstrated that even if civilian *objective* control of promoting PLA corporate interests has continued,<sup>20</sup> Xi's deeper intrusion into the latter's institutional autonomy imposes stronger *subjective* control. Xi has distinguished himself from his post-revolutionary predecessors by frequently invoking the power of his office as well as emphasizing the authority of the "CMC Chairman Responsibility System" as the foundation of his command,<sup>21</sup> and cultivated his commander-in-chief image.<sup>22</sup> Apart from his frequent visits to military installations, Xi invokes maxims often to guide the actions of its top brass and rank-and-file.

Still, whereas Xi may have outshone Jiang and Hu, his lack of Mao and Deng's revolutionary credentials means he had initially failed to command the



*unconditional* obedience of the party and government in general<sup>23</sup> – and concomitantly, Maoist and Dengist *absolute* control of the military more specifically. Indeed, Xi has had to compensate for those limitations by institutionalizing direct controls over the party–state–military nexus to ensure the subordination of the regime’s vast bureaucracies.<sup>24</sup> Toward that end, he has enhanced his powers by establishing and leading all the key sectors of the regime – including national security, foreign affairs and the economy;<sup>25</sup> and instituted new task forces that he himself leads, including the Central Leading Group (CLG) for Comprehensively Deepening Reform and the Central National Security Commission (CNSC). As CMC chairman, he also set up the National Defence and Military Reform CLG. Where command and control of the military is concerned, these point toward a new model of civil–military relations in China; if anything, Xi has underlined he is no mere PLA figurehead.

It follows that although the PLA’s *objective* compliance with CCP rule has remained unchanged – in view of its status as a standing army that is deferential to the party–state on non-military issues – the degree of *subjective* control exercised by its commander-in-chief has undergone qualitative change. The PLA’s monopoly on coercion, under the shadow of the purported coup prior to the 18th Party Congress, would have influenced the CMC chairman to aspire toward methods that privilege him control of the party’s gun in the manner of China’s former revolutionary leaders. To command an increasingly corporatized and cohesive military, Xi has first built up his powerbase within the CMC to exercise pseudo-“strongman” command before institutionalizing control mechanisms through his formal appointment. Although it still remains arguable whether the incumbent Chinese leader now enjoys *automatic* control,<sup>26</sup> Xi’s enhancement of military legislation and enforcement of stronger supervision mechanisms has won him – at least – *authoritative* civilian control.

Nowhere is this authority more apparent than in Xi Jinping’s application of his signature anti-corruption campaign, which appears to have resulted in the civil–military dynamic approximating toward the PLA *working* under CCP *intrusive monitoring*<sup>27</sup> – as opposed to the unprecedented level of autonomy enjoyed by military leaders prevalent notably under his immediate predecessor. Inarguably, Xi’s fight against graft in the military has attacked the networks of corrupt elements in the PLA following Dengist reforms.<sup>28</sup> Xi’s purge of the very institution meant to secure his rule and maintain CCP authoritarian resilience, raises an interesting question: If the *raison d’être* of the PLA remains the preservation of single-party rule, why then has the party leader decided to move against it?<sup>29</sup>

## Changes in China’s strategic environment

Outwardly, corruption at the highest levels of the military leadership meant the PLA was probably neither strong enough to defend the state *externally*, but also hurting it *internally* as a parasitic institution siphoning off national resources while causing damage to its own image – and that of the CCP. Fundamentally,



the confluence of a number of factors at the time of China's leadership transition during the 18th Party Congress meant previous mechanisms at governing civil–military interactions were no longer feasible. Put together, these provide the context for comprehending the utility of the anti-corruption campaign in addressing the state of Chinese civil–military (im)balance.

### *Factional politics and regime legitimacy*

China's Reform and Opening-up has led to the institutionalization of corruption that has intensified under post-Deng CCP administrations.<sup>30</sup> With civilian–military concurrence that Beijing's greatest challenge comes from within,<sup>31</sup> the PLA thus plays a significant role in domestic politics as the last line of defense against any threat to CCP rule.<sup>32</sup> In the wake of the factional strife between party elites leading up to the 18th Party Congress,<sup>33</sup> Xi Jinping has moved to consolidate his military authority. Having witnessed the political gridlock personified by Hu Jintao's weakly institutionalized control that indirectly afforded the opportunistic power struggles, it was clear Xi's own political survival calculus depended on military support. Indeed, Xi's predecessor had been unable to assert himself in military affairs due in part to his deliberate decision to eschew building factional support within the PLA – but more so, due to the under-institutionalization of authoritative civilian control. Moreover, Hu had delegated – or even *deferred* – to the Jiang Zemin proxies, Generals Guo Boxiong and Xu Caihou, in military affairs. For Xi to lead effectively as China's top leader and avoid Hu's "reign without overt rule,"<sup>34</sup> the backing of the PLA is imperative in breaking the trend of retired CCP elders holding sway in politics and dismantling the entrenched patron–client networks under Guo and Xu; indubitably, the subsequent arrests of Guo and Xu serve as an implicit censure of Jiang.

The Soviet collapse in hindsight,<sup>35</sup> and the legitimacy issues of Xi's own regime, reaffirms the PLA as the guardian of CCP rule:

Why must we stand firm on the Party's leadership over the military? Because that's the lesson from the collapse of the Soviet Union. In the Soviet Union where the military was depoliticised, separated from the Party and nationalised, the party was disarmed. A few people tried to save the Soviet Union; they seized Gorbachev, but within a few days it was turned around again, because they didn't have the instruments to exert power. Yeltsin gave a speech standing on a tank, but the military made no response, keeping so-called "neutrality" [...] A big Party was gone just like that [...] <sup>36</sup>

Widespread trading of ranks within the PLA – in which prices had been set at each level of the hierarchy<sup>37</sup> – and other corrupt practices would have also exacerbated the legitimacy crisis, and undermined the image of the self-styled *people's* military, and by association, that of the party. While military malfeasance undermines the regime's meritocratic claims, and probably erodes troop morale, the ability of a compromised corps to sustain CCP rule also comes under

scrutiny. That Xu Caihou, first as General Political Department (GPD) director before becoming CMC vice-chairman – the latter role, effectively, the CCP’s top representative in the PLA – had failed in his duties to implement the party’s political guidelines, also raises doubts about the degree of the regime’s ideological penetration.

### ***Slowdown in Chinese economic growth***

After nearly a decade of double-digit expansion, the economic conditions bequeathed to China’s new generation of leaders became less favorable as the economy began to adjust itself to “the new normal.”<sup>38</sup> Rising inflation and the continued shift of industrial activity to neighboring countries with lower production costs also resulted in less robust economic performance. Synchronously, growing Chinese economic interests around the world meant the PLA had assumed more global obligations.<sup>39</sup> With rising operational costs and a slackening economy, China has also curtailed the rate of growth in its military expenditure.<sup>40</sup> As a document passed at the 3rd Plenum in 2013 highlighted, the PLA is expected to “adjust the personnel composition of the military and reduce non-combatant departments and staff members” as well as “improve management of military expenditures.”<sup>41</sup> Indeed, with less economic leverage to “purchase” the PLA’s obedience through financial means, “conditional” compliance is anything but sustainable. Less robust economic expansion therefore means Xi Jinping can ill afford to exercise lax fiscal discipline than his predecessors in controlling defense budgets. With some estimates suggesting more than half of the PLA’s coffers in 2011 had been pocketed,<sup>42</sup> large-scale misappropriation certainly also deprives the government of much needed revenue.<sup>43</sup> These would not have been acceptable for a leader who “is not corrupt and does not care about money.”<sup>44</sup> Under these circumstances, a more cost-effective method of civilian control is essential.<sup>45</sup> It follows that the threshold for graft has also lowered if Xi’s “China Dream” is to be realized.<sup>46</sup> In the event of sustained economic malaise, moreover, a military’s faith in the judgment of its civilian leaders may also be tested, should the former’s desire for materiel and concerns over social stability not be satisfied.<sup>47</sup>

### ***A more challenging security landscape***

The regional strategic landscape inherited by the Chinese leader was also less favorable. Major power competition between China and the US – in the diplomatic, economic, military, and soft power realms – had become comprehensive by the fall of 2012.<sup>48</sup> Thence, it has become more crucial than ever for the PLA to be ready for any contingency. With growing external dependencies as Beijing shifts further away from “keeping a low profile,” the military aspect in Beijing’s international calculus is also more pronounced as Chinese strategic depth continues to extend alongside its economic heft. While civilian leaders may desire a powerful armed forces that “meets the needs of its security and development

interests,<sup>49</sup> military corruption may impinge on Beijing's desire to expand its access to, and influence, in nearby waters.<sup>50</sup> With a rotten core of military elites in charge of training, officer appointments, infrastructure and equipment procurement,<sup>51</sup> skepticism over actual PLA war-fighting standards could easily translate into ineptitude on the battlefield.<sup>52</sup>

Growing PLA prominence in China's national security issues further tests the ability of the commander-in-chief to impose his will on the military in the management of foreign policy.<sup>53</sup> Although there exists no conclusive evidence of a civilian leadership being held to ransom by a rogue military,<sup>54</sup> the possibility of a civil-military gap nonetheless underscores the gravity of exercising civilian oversight.<sup>55</sup> As the PLA's role in China's diplomacy-national security nexus continues to rise as Beijing plots a return to great-power status,<sup>56</sup> it is thus crucial for the CCP to ratify both the PLA's political reliability and combat effectiveness in the latter's capacity as a useful foreign policy tool,<sup>57</sup> as opposed to embroiling the nation in any unnecessary entanglements. Success in this endeavor will privilege the regime with additional (martial) options as Beijing mitigates the risks and challenges arising from its growing interests in a more complex global operational environment – when necessary. Symptomatic of the erosion of party control, military corruption will certainly also have ramifications on Chinese defense capabilities.

### ***Lack of civilian oversight over the military***

The state of civilian-military affairs when Hu Jintao handed over his military portfolio also matters. As a consequence of the PLA's status as a CCP apparatus rather than a national defense force, political commissars are required at every level to assess candidates' political reliability prior to being promoted. Progressing up the chain of command, military cadres primed for elite positions are also vetted by the top brass. As the critical event that epitomized the extent of corruption and clientelism within the ranks, the indictment of the former major-General Gu Junshan further highlighted the lack of civilian oversight when his embezzlements from the sale of military assets and unsanctioned gifts of real estate to superiors for promotion were uncovered.<sup>58</sup> Though Hu had ordered an inquiry, his then CMC deputies failed to discharge their duties, forcing the commander-in-chief to bypass the PLA's discipline inspection organ under the then GPD – which Xu Caihou previously led – by turning to the civilian anti-graft agency, the Central Discipline Inspection Commission (CDIC).<sup>59</sup> As a fellow CMC vice-chairman from 2010 to 2012, Xi would have been keenly aware of the insubordination of the PLA's leadership. Under that context, the former generals had in effect become oligarchs of the party's military.

To be sure, some of the institutional building measures to improve civilian oversight during the Hu era did not work either. Two years after an audit of the financial status of more than 100 senior officers was ordered in 2004,<sup>60</sup> it emerged that a former PLA Navy deputy commander, vice-admiral Wang Shouye, siphoned off 160 million *yuan* when he was a General Logistics Department (GLD) deputy

director. Wang and Gu's cases highlight the dearth of civilian supervision,<sup>61</sup> and allude to the patronage networks within the PLA. Not dissimilar to the backing afforded to Wang by his political patron,<sup>62</sup> Gu Junshan – as one of Xu Caihou's numerous clients – had the temerity to challenge his GLD political commissar, the "Princeling" General Liu Yuan, when the latter pledged to expose his indiscretions.<sup>63</sup> This example is critical to understanding the extent of the problems in the PLA's human resource management; Gu's promotion to GLD deputy director – in spite of internal objections from Liu and a former GLD director, Liao Xilong – were eventually circumvented.<sup>64</sup> Given ingratiating oneself through bribes was not uncommon in the PLA,<sup>65</sup> Gu's case highlighted the abuse of power at the highest levels. And it was only after Liu became whistleblower that Gu's indiscretions could surface, further suggesting the lack of institutional control mechanisms. Liu is believed to have exposed Gu after Xu Caihou had rigged the intra-party voting process to block Liu's CMC candidature; aggrieved, Liu thus decided to expose Xu and Gu's patron–client relationship. Xu, however, went even further in disobeying legitimate civilian command in order to protect Gu – and himself.

The subsequent downfall of Xu and Guo Boxiong, while confirming suspicions regarding Hu's ineffectual command of the PLA, also serves as a lesson on how *not* to be commander-in-chief. Even if the two former CMC vice-chairmen had been acting as proxies of a former leader, they had gone against the orders of their then CMC chairman. The significance of exercising decisive influence over military affairs – and by extension, how party and state affairs are run – would have been obvious to Xi Jinping.<sup>66</sup> In order to avert the lackluster leadership of Hu Jintao and prevent the political gridlock that had plagued his administration,<sup>67</sup> Xi would have understood that support from the PLA for his policies was necessary in order to enact them. Despite, however, the removal of the former CMC deputies to push through his guidelines in managing the PLA, Xi would nevertheless also have to guard against the coterie of generals whom Guo and Xu had promoted to key positions.<sup>68</sup>

## **Reclaiming the party's control of the gun**

The discussion above thus provides the background behind the fight against military graft. Just as Mao Zedong had toppled his detractors on the grounds of ideology, Xi Jinping has found utility in his anti-corruption campaign to remove political adversaries and extirpate the formation of factional groups that threaten to oppose him and his policies. Notwithstanding the extra-legal nature of the purges, the indictment of notable Jiang Zemin protégés invariably serves as a means by Xi to chisel away at Jiang's periphery of power and limit the former leader from perpetuating his influence on party–state affairs.<sup>69</sup> To assert his authority in military affairs, the move against some of the PLA elites associated with Guo Boxiong and Xu Caihou also likely yields incriminating evidence of others still standing. Given the crisis of legitimacy plaguing the regime, purging the corps of its corrupt underpinnings also mitigates public perceptions of the CCP's coercive forces – thence by association, the party itself – as inherently

Table 1.1 PLA senior officers under graft probe since the 18th Party Congress

| No. | Name          | Patron–client ties | Birthplace   | Appointment                                                    | Rank | Grade             | Branch    | MR affiliation                                                           | Confirmed  |
|-----|---------------|--------------------|--------------|----------------------------------------------------------------|------|-------------------|-----------|--------------------------------------------------------------------------|------------|
| 1   | XU Caihou     | JIANG Zemin        | Liaoning     | Vice Chairman Central Military Commission                      | G    | CMC deputy leader | Army      | Shenyang; 16 Group Army <sup>1</sup>                                     | 2015.01.15 |
| 2   | GUO Boxiong   | JIANG Zemin        | Shaanxi      | Vice Chairman Central Military Commission                      | G    | CMC deputy leader | Army      | Lanzhou; 47 Group Army                                                   | 2015.07.30 |
| 3   | ZHANG Yang    | GUO Boxiong        | Hebei        | Member Central Military Commission                             | G    | CMC member        | Army      | Guangzhou; 63 Group Army                                                 | 2017.11.28 |
| 4   | FANG Fenghui  | Guo Boxiong        | Shaanxi      | Member Central Military Commission                             | G    | CMC member        | Army      | Xinjiang, <sup>2</sup> Lanzhou, Guangzhou, Beijing; 21 Group Army        | 2018.01.09 |
| 5   | TIAN Xiusi    | GUO Boxiong        | Henan        | Political Commissar PLA Air Force                              | G    | MR leader         | Air Force | Lanzhou; Chengdu                                                         | 2016.07.09 |
| 6   | WANG Jianping | ZHOU Yongkang      | Liaoning     | Deputy Chief of Staff CMC Joint Staff Department               | G    | MR leader         | PAP       | Shenyang; 40 Group Army Artillery Brigade; PAP 120th Division; PAP Tibet | 2016.12.29 |
| 7   | WANG Xibin    | XU Caihou          | Heilongjiang | President PLA National Defence University<br>(retired in 2013) | G    | MR leader         | Army      | 38 Group Army; 27 Group Army; Beijing                                    | 2017.02.24 |

|    |                 |                             |          |                                                                                 |    |                     |                              |                                                                            |            |
|----|-----------------|-----------------------------|----------|---------------------------------------------------------------------------------|----|---------------------|------------------------------|----------------------------------------------------------------------------|------------|
| 8  | YANG<br>Jinshan | XU Caihou                   | Henan    | Deputy<br>Commander<br>Chengdu<br>Military Region                               | LG | MR deputy leader    | Army                         | Chengdu                                                                    | 2015.01.15 |
| 9  | LIU Zheng       | XU Caihou                   | Liaoning | Deputy Director<br>General<br>Logistics<br>Department                           | LG | MR deputy leader    | Army                         | General<br>Logistics<br>Department                                         | 2015.01.15 |
| 10 | FAN<br>Changmi  | GUO Boxiong +<br>TIAN Xiusi | Shandong | Deputy Political<br>Commissar<br>Lanzhou Military<br>Region                     | LG | MR deputy leader    | Army                         | Lanzhou; 47<br>Group Army                                                  | 2015.01.15 |
| 11 | YU Daqing       | XU Caihou                   | Liaoning | Deputy Political<br>Commissar<br>Second Artillery<br>Corps                      | LG | MR deputy leader    | Second<br>Artillery<br>Corps | General<br>Political<br>Department                                         | 2015.01.15 |
| 12 | WANG<br>Yufa    | XXX                         | Henan    | Deputy Political<br>Commissar<br>Guangzhou<br>Military Region<br>Air Force      | LG | MR deputy leader    | Air Force                    | Guangzhou                                                                  | 2015.09.30 |
| 13 | NIU<br>Zhizhong | WANG Jianping               | Hebei    | Deputy<br>Commander PAP                                                         | LG | MR deputy leader    | PAP                          | 38 Group<br>Army; PAP<br>Tibet; PAP<br>Guangdong                           | 2016.10.27 |
| 14 | WANG<br>Jiurong | Xu Caihou                   | Beijing  | Deputy<br>Commander<br>Second Artillery<br>Corps ( <i>retired in<br/>2014</i> ) | LG | MR Deputy<br>leader | Second<br>Artillery<br>Corps | Second<br>Artillery<br>Corps; Base 54<br>(Luoyang);<br>Base 56<br>(Xining) | 2017.06.27 |

*continued*

Table 1.1 Continued

| No. | Name           | Patron–client ties       | Birthplace | Appointment                                                                                                                                                      | Rank | Grade            | Branch                 | MR affiliation                  | Confirmed  |
|-----|----------------|--------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------------|------------------------|---------------------------------|------------|
| 15  | ZHANG Dongshui | XU Caihou                | Shandong   | Deputy Political Commissar Second Artillery Corps                                                                                                                | MG   | MR deputy leader | Second Artillery Corps | General Political Department    | 2015.03.03 |
| 16  | ZHANG Ming     | XXX                      | Liaoning   | Chief of Staff Jinan Military Region                                                                                                                             | MG   | MR deputy leader | Army                   | General Staff Department; Jinan | 2016.08.31 |
| 17  | LIU Shengjie   | XXX                      | Sha'anxi   | Deputy Political Commissar and Discipline and Inspection Commission Secretary, General Logistics Department; Member Central Discipline and Inspection Commission | MG   | MR deputy leader | Army                   | General Logistics Department    | 2017.10.09 |
| 18  | FANG Wenping   | XU Caihou                | Beijing    | Commander Shanxi Military District                                                                                                                               | MG   | Corps leader     | Army                   | Beijing                         | 2015.01.15 |
| 19  | YE Wanyong     | XU Caihou + YANG Jinshan | Hubei      | Political Commissar Sichuan Military District ( <i>retired in 2012</i> )                                                                                         | MG   | Corps leader     | Army                   | Chengdu                         | 2015.01.15 |

|    |                |               |          |                                                                                |    |              |      |                                                |            |
|----|----------------|---------------|----------|--------------------------------------------------------------------------------|----|--------------|------|------------------------------------------------|------------|
| 20 | ZHANG Qibin    | XXX           | Hebei    | Deputy Chief of Staff Jinan Military Region                                    | MG | Corps leader | Army | Jinan; North Sea Fleet                         | 2015.01.15 |
| 21 | ZHU Heping     | ZHANG Wannian | Jiangxi  | Director Joint Logistics Department Chengdu Military Region                    | MG | Corps leader | Army | Chengdu; 14 Group Army; Chongqing Reserve Unit | 2015.03.03 |
| 22 | YUAN Shijun    | XXX           | Hebei    | Commander Hubei Military District                                              | MG | Corps leader | Army | Guangzhou                                      | 2015.03.03 |
| 23 | WANG Aiguo     | XXX           | Jiangsu  | Director Joint Logistics Department Shenyang Military Region (retired in 2011) | MG | Corps leader | Army | Shenyang                                       | 2015.03.03 |
| 24 | HUANG Xing     | XXX           | XXX      | Director Scientific Research Guidance Academy of Military Sciences             | MG | Corps leader | Army | Central Military Commission                    | 2015.03.03 |
| 25 | ZHAN Guoqiao   | GUO Boxiong   | Zhejiang | Director Joint Logistics Department Lanzhou Military Region                    | MG | Corps leader | Army | Lanzhou; General Logistics Department          | 2015.04.26 |
| 26 | DONG Mingxiang | GUO Boxiong   | Anhui    | Director Joint Logistics Department Beijing Military Region                    | MG | Corps leader | Army | Beijing; General Logistics Department          | 2015.04.26 |

*continued*



Table 1.1 Continued

| No. | Name         | Patron–client ties | Birthplace   | Appointment                                                             | Rank | Grade        | Branch | MR affiliation                        | Confirmed  |
|-----|--------------|--------------------|--------------|-------------------------------------------------------------------------|------|--------------|--------|---------------------------------------|------------|
| 27  | FU Yi        | GUO Boxiong        | Shanxi       | Commander Zhejiang Military District (retired in 2013)                  | MG   | Corps leader | Army   | Nanjing                               | 2015.05.29 |
| 28  | ZHOU Minggui | XXX                | Jiangsu      | Political Commissar Joint Logistics Department Nanjing Military Region  | MG   | Corps leader | Army   | Nanjing; General Political Department | 2015.05.29 |
| 29  | KOU Tie      | XXX                | Heilongjiang | Commander Heilongjiang Military District                                | MG   | Corps leader | Army   | Shenyang                              | 2015.06.16 |
| 30  | LIU Zhanqi   | XXX                | Hebei        | Commander People’s Armed Police Traffic Headquarters                    | MG   | Corps leader | PAP    | Lanzhou                               | 2015.06.16 |
| 31  | DENG Ruihua  | GUO Boxiong        | Gansu        | Political Commissar, Joint Logistics Department Lanzhou Military Region | MG   | Corps leader | Army   | Lanzhou                               | 2015.07.10 |
| 32  | WANG Xin     | XXX                | XXX          | Political Commissar People’s Armed Police Traffic Headquarters          | MG   | Corps leader | PAP    | Beijing                               | 2015.07.31 |

|    |                |           |          |                                                             |    |              |           |                                                                            |            |
|----|----------------|-----------|----------|-------------------------------------------------------------|----|--------------|-----------|----------------------------------------------------------------------------|------------|
| 33 | ZHANG Wansong  | XXX       | XXX      | Director Joint Logistics Department Lanzhou Military Region | MG | Corps leader | Army      | Lanzhou                                                                    | 2015.08.18 |
| 34 | LI Mingquan    | XXX       | Hebei    | Director General Equipment General Armaments Department     | MG | Corps leader | Army      | General Armaments Department                                               | 2015.12.10 |
| 35 | ZHU Hongda     | XXX       | Shanghai | Director General Logistics PLA Air Force                    | MG | Corps leader | Air Force | Lanzhou                                                                    | 2016.03.31 |
| 36 | ZHANG Gongxian | XU Caihou | Shandong | Director Political Department Jinan Military Region         | MG | Corps leader | Army      | General Political Department                                               | 2014.07.22 |
| 37 | WANG Yu        | XXX       | Hubei    | Director Armaments Department PLA Navy South Sea Fleet      | MG | Corps leader | Navy      | Guangzhou; South Sea Fleet                                                 | 2015.11.03 |
| 38 | SHEN Tao       | XXX       | Anhui    | President People's Armed Police Engineering University      | MG | Corps leader | PAP       | PAP 93rd Division 253rd Regiment; PAP 38th Division PAP Beijing; PAP Henan | 2015.11.26 |

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*continued*

Table 1.1 Continued

| No. | Name         | Patron–client ties       | Birthplace | Appointment                                                                               | Rank | Grade               | Branch | MR affiliation                                               | Confirmed  |
|-----|--------------|--------------------------|------------|-------------------------------------------------------------------------------------------|------|---------------------|--------|--------------------------------------------------------------|------------|
| 39  | ZHOU Linhe   | XXX                      | Jiangsu    | Director Materiel and Fuel Supply General Logistics Department                            | MG   | Corps leader        | Army   | General Logistics Department                                 | 2016.09.03 |
| 40  | LI Zhijian   | XXX                      | Henan      | Commander People’s Armed Police Hebei Province                                            | MG   | Corps leader        | PAP    | Xinjiang Production and Construction Corps                   | 2017.07.03 |
| 41  | HOU Xiaoqin  | XXX                      | Shanxi     | Deputy Director Political Department People’s Armed Police (disqualified from 12th CPPCC) | MG   | Corps leader        | PAP    | PLA Xinjiang Independent 2nd Regiment; PAP Xinjiang Regiment | 2017.02.23 |
| 42  | WANG Minggui | XXX                      | Henan      | Political Commissar Air Defence Command Academy                                           | MG   | Corps deputy leader | Army   | Information Engineering University; General Staff Department | 2015.01.15 |
| 43  | WEI Jin      | XU Caihou + YANG Jinshan | Shanxi     | Deputy Political Commissar Tibet Military District                                        | MG   | Corps deputy leader | Army   | Chengdu                                                      | 2015.01.15 |

|    |               |                         |         |                                                                  |         |                     |                        |                                        |            |
|----|---------------|-------------------------|---------|------------------------------------------------------------------|---------|---------------------|------------------------|----------------------------------------|------------|
| 44 | CHEN Qiang    | XXX                     | Hubei   | Deputy Commander Second Artillery Corps Base 56 Unit 96351       | MG      | Corps deputy leader | Second Artillery Corps | Beijing                                | 2015.01.15 |
| 45 | FU Linguo     | XU Caihou + LIAO Xilong | Guizhou | Deputy Chief of Staff General Logistics Department               | MG      | Corps deputy leader | Army                   | General Logistics Department           | 2015.01.15 |
| 46 | DAI Weimin    | XXX                     | Anhui   | Vice President Nanjing Institute of Politics                     | MG      | Corps deputy leader | Army                   | General Political Department           | 2015.01.15 |
| 47 | GAO Xiaoyan   | XXX                     | Shanxi  | Deputy Political Commissar Information Engineering University    | MG      | Corps deputy leader | Army                   | General Staff Department; 309 Hospital | 2015.01.15 |
| 48 | DUAN Tianjie  | XXX                     | Shanxi  | Deputy Director Political Department National Defense University | MG      | Corps deputy leader | Army                   | Central Military Commission            | 2015.03.03 |
| 49 | HUANG Xianjun | XXX                     | Hebei   | Director Political Department Shanxi Military District           | MG      | Corps deputy leader | Army                   | Beijing                                | 2015.03.03 |
| 50 | MA Xiangdong  | XXX                     | XXX     | Director Political Department Nanjing Institute of Politics      | Snr COL | Corps deputy leader | Army                   | General Political Department           | 2015.01.15 |

*continued*

Table 1.1 Continued

| No. | Name          | Patron–client ties      | Birthplace | Appointment                                                              | Rank | Grade               | Branch | MR affiliation              | Confirmed  |
|-----|---------------|-------------------------|------------|--------------------------------------------------------------------------|------|---------------------|--------|-----------------------------|------------|
| 51  | ZHANG Daixin  | XU Caihou               | XXX        | Deputy Commander Heilongjiang Military District                          | MG   | Corps deputy leader | Army   | Shenyang; 16 Group Army     | 2015.01.15 |
| 52  | LAN Weijie    | GU Junshan              | XXX        | Deputy Commander Hubei Military District                                 | MG   | Corps deputy leader | Army   | Guangzhou                   | 2015.03.03 |
| 53  | LIU Hongjie   | XU Caihou + GUO Boxiong | XXX        | Deputy Director Management & Support Department General Staff Department | MG   | Corps deputy leader | Army   | Central Military Commission | 2015.03.03 |
| 54  | CHENG Jie     | XXX                     | XXX        | Deputy Chief of Staff PLA Navy North Sea Fleet                           | MG   | Corps deputy leader | Navy   | Jinan                       | 2015.03.03 |
| 55  | CHEN Jianfeng | XXX                     | XXX        | Deputy Director Joint Logistics Department Guangzhou Military Region     | MG   | Corps deputy leader | Army   | Guangzhou                   | 2015.03.03 |
| 56  | CAI Guangliao | XXX                     | Guangdong  | Deputy Director Guangdong Provincial Party Committee                     | MG   | Corps deputy leader | PAP    | Guangzhou                   | 2015.03.30 |

|    |               |             |          |                                                                        |         |                     |           |           |            |
|----|---------------|-------------|----------|------------------------------------------------------------------------|---------|---------------------|-----------|-----------|------------|
| 57 | CHEN Hongyan  | XXX         | XXX      | Deputy Director Political Department Beijing Military Region Air Force | MG      | Corps deputy leader | Air Force | Beijing   | 2015.03.03 |
| 58 | WANG Sheng    | XXX         | XXX      | Director Logistics Department Guangzhou Military Region Air Force      | MG      | Corps deputy leader | Air Force | Guangzhou | 2015.03.03 |
| 59 | GUO Zhenggang | GUO Boxiong | Shaanxi  | Deputy Political Commissar Zhejiang Military District                  | MG      | Corps deputy leader | Army      | Nanjing   | 2015.03.03 |
| 60 | ZHAN Jun      | GUO Boxiong | Hubei    | Deputy Commander Hubei Military District                               | MG      | Corps deputy leader | Army      | Guangzhou | 2015.04.26 |
| 61 | XU Haoyuan    | XXX         | Shanghai | Political Commissar Tianjin Public Security Fire Brigade               | Snr COL | Corps deputy leader | PAP       | Nanjing   | 2015.09.11 |
| 62 | LIAO Guirong  | XXX         | Gansu    | Chief Engineer People's Armed Police Traffic Engineering Department    | MG      | Corps deputy leader | PAP       | Beijing   | 2015.09.15 |

*continued*

Table 1.1 Continued

| No. | Name          | Patron–client ties | Birthplace | Appointment                                                              | Rank    | Grade               | Branch                 | MR affiliation               | Confirmed  |
|-----|---------------|--------------------|------------|--------------------------------------------------------------------------|---------|---------------------|------------------------|------------------------------|------------|
| 63  | CHENG Yongli  | XXX                | Hebei      | Political Commissar Zhejiang Fire Brigade Division                       | Snr COL | Corps deputy leader | PAP                    | Nanjing                      | 2015.09.18 |
| 64  | ZHOU Guotai   | ZHOU Linhe         | Jilin      | Deputy Director Materiel and Fuel Supply General Logistics Department    | MG      | Corps deputy leader | Army                   | General Logistics Department | 2015.10.21 |
| 65  | ZHANG Genheng | XXX                | XXX        | Commander Xinjiang Border Security Unit                                  | MG      | Corps deputy leader | PAP                    | Lanzhou                      | 2015.11.03 |
| 66  | YIN Zhishan   | XXX                | XXX        | Deputy Director Ministry of Public Security People’s Armed Police        | MG      | Corps deputy leader | PAP                    | Beijing                      | 2015.11.03 |
| 67  | MA Dewen      | XXX                | Jilin      | Commander Jiangsu Provincial Fire Brigade                                | MG      | Corps deputy leader | PAP                    | Nanjing                      | 2015.11.03 |
| 68  | WU Ruizhong   | XXX                | XXX        | Deputy Political Commissar Second Artillery Corps Engineering University | MG      | Corps deputy leader | Second Artillery Corps | Beijing                      | 2015.11.13 |

|    |                |     |          |                                                                                          |    |                        |      |                             |            |
|----|----------------|-----|----------|------------------------------------------------------------------------------------------|----|------------------------|------|-----------------------------|------------|
| 69 | QU Mutian      | XXX | Hubei    | Deputy<br>Commander<br>People's Armed<br>Police Traffic<br>Headquarters                  | MG | Corps deputy<br>leader | PAP  | Lanzhou                     | 2015.11.13 |
| 70 | YANG Hai       | XXX | Liaoning | Commander<br>People's Armed<br>Police Fujian<br>Province                                 | MG | Corps deputy<br>leader | PAP  | Nanjing                     | 2015.11.27 |
| 71 | DONG<br>Youxin | XXX | Henan    | Deputy Director<br>General Staff<br>Department<br>Informationization<br>Department       | MG | Corps deputy<br>leader | Army | General Staff<br>Department | 2015.11.27 |
| 72 | YU Tiemin      | XXX | Beijing  | Commander<br>People's Armed<br>Police Jiangsu<br>Province ( <i>retired<br/>in 2015</i> ) | MG | Corps deputy<br>leader | PAP  | Nanjing                     | 2016.07.26 |
| 73 | WANG<br>Dong   | XXX | Shanxi   | Chief of Staff<br>Tianjin Defence<br>Mobilization                                        | MG | Corps deputy<br>leader | Army | Beijing                     | 2016.12.25 |

Sources: 中共十八大以来的反腐工作 (zh.wikipedia.org); 十八大以来反腐倡廉罗马将领 (baike.baidu.com); various Chinese newspapers; and Chinese official web-sites. Others that have been reported but yet to receive confirmation by mainstream media are omitted.

#### Notes

A list of senior PLA officers under graft investigation since the CCP 18th Party Congress compiled by the author in May 2018.

XX/XXX = Information not available.

1 As part of the recent reforms, the former 18 Group Armies were reorganised into 13 new Group Armies (the 71st to the 83rd). 'Yi yuan 18 ge jituanjun wei jichu, tiaozheng zujian 13 ge jituanjun' [The Original 18 Group Armies Have Been Re-adjusted and Organised into 13 Group Armies], *Ministry of National Defence of the People's Republic of China*, 27 April 2017.

2 Between 1965 and 1985, there were 11 military regions in China: Beijing, Chengdu, Fuzhou, Guangzhou, Jinan, Kunming, Lanzhou, Nanjing, Shenyang, Wuhan, and Xinjiang. By 1985, the former Xinjiang Military Region had been incorporated into Lanzhou Military Region.



rotten. And in furtherance of Beijing's global ambitions, replacing dishonourable officers with those more likely to inspire the rank-and-file,<sup>70</sup> also shapes the PLA into a more compliant foreign policy instrument. To delve deeper into the *modus operandi* of the campaign – unprecedented in the PLA's history having implicated CMC-grade leaders – it is necessary to examine the mechanisms by which civilian oversight has been reinstituted. A brief analysis of the patron–client networks within the top brass and the professional affiliations (e.g., regions and service branches) of those indicted following the CCP's 18th Party Congress is thus in order. To contextualize the politics behind the purge, the discussion is then followed by an overview of the structural reforms and procedural measures implemented since.

### ***Restraining abuses of power and arresting corrupt practices***

The ongoing anti-graft movement works at two levels. Besides making examples of Guo Boxiong and Xu Caihou to emphasize the party's so-called absolute control of the military, Xi Jinping has sought to restrain ranking officers from abuses of power. To dismantle Guo and Xu's networks, a number of the latter's associates have either been indicted, or in some cases, summarily dismissed.<sup>71</sup> The military "tigers" who fall under this category include the Xu protégés – political officers Yu Daqing, Zhang Dongshui, Ye Wanyong, and Wei Jin; the logisticians Liu Zheng and Fu Linguo; as well as the commanders Yang Jinshan, Fang Wenping and Zhang Daixin. In similar vein, senior officers linked to Guo Boxiong to have been removed consist of the former chief of the CMC Joint Staff Department, Fang Fenghui;<sup>72</sup> the commanders Fu Yi and Zhan Jun; commissars such as Tian Xiushi, Fan Changmi, Deng Ruihua, and Guo's own son, Guo Zhenggang; as well as the logistics officers, Dong Mingxiang and Zhan Guoqiao. One in the list, Liu Hongjie, also apparently shared links with Xu and Guo. Zhu Heping's inclusion in the list is also notable in view of his association with Bo Xilai,<sup>73</sup> and another former CMC vice chairman, Zhang Wannian – the latter purportedly having championed for Jiang Zemin to retain his CMC leadership in 2002 even though Jiang was due to retire.

The case of the PLA strategist, Huang Xing, also stands out in the larger context of Chinese national security and foreign policymaking being compromised by corruption. Indubitably, with China's civil–military relations writ large in its external environment, Huang's alleged offense in leaking secrets to rebels in Myanmar violated the military code of averting unsanctioned contact between PLA officers and foreign military personnel.<sup>74</sup> In instituting oversight and preventing oneself from being held hostage by any rogue elements in the PLA, fighting graft thus also provides the platform for China's commander-in-chief to root out recalcitrant soldiers.

The impeachment of other logistics officers in the data reflects the problems inherent in the PLA's logistics organs.<sup>75</sup> Where Gu Junshan's case is concerned, problems with the GLD's institutional arrangements meant that its discipline inspection organs were placed under the very same personnel they were meant to

supervise.<sup>76</sup> Complicating matters further, Gu’s authority over infrastructure construction and land management also empowered his family to undertake land grabs and win contracts to supply materiel.<sup>77</sup> Owing to the division of responsibilities between the former four general headquarters, the GLD thus had sole responsibility over finances, land and resources, infrastructure, transportation, and health and services.<sup>78</sup> Opportunities for taking bribes also presented themselves in lower-level local commands responsible for recruitment as can be seen in the cases of a former political department director of Nanjing Institute of Politics,<sup>79</sup> and an ex-commander of the Xinjiang Border Defense Corps,<sup>80</sup> both of whom had sold admissions.

The instrumental nature of China’s legal framework unsurprisingly means there are limits and limitations in the purges.<sup>81</sup> With abuses of power and rent-seeking endemic in China’s political system, corruption may after all be a lesser evil compared to one’s political failings – thus conforming to suggestions that the fight against graft is but a “selective” campaign.<sup>82</sup> Veritably, the ongoing war on military malfeasance is marked by the identities of those indicted as much as those conspicuously omitted, with Xi Jinping’s so-called “zero-tolerance” approach yielding neither his associates nor members of his “Princeling” faction.<sup>83</sup> Within the PLA, it has spared a serving CMC-grade leader,<sup>84</sup> and most officers at the level directly below that. The anti-graft net, indeed, stands out for the dearth of MR-grade officers.<sup>85</sup> While we can only make informed speculation that the Chinese leader was seeking to prevent a backlash from leaders in the first line of command,<sup>86</sup> it is also plausible that purging their *superiors* as well as *subordinates* would have informed the officers where their loyalties lie. Given how some officers were also promoted shortly before their downfall,<sup>87</sup> it is not impossible more MR-grade generals may be removed at a later date. Of greater concern, it appears, would have been the damage to the PLA’s standing and morale should there have been too many exposés of high-ranking soldiers within too short a period.<sup>88</sup>

### *Using psychological intimidation and institutional measures*

Xi Jinping has likewise tightened his command and control through institutional and psychological mechanisms. While yet unclear whether this combination of procedural and psychological methods – coupled with dispatches of anti-graft inspection teams<sup>89</sup> – amounts to “structural changes that demand greater transparency, accountability, and civilian oversight,”<sup>90</sup> they nonetheless target those sectors, services and departments, where corruption had been rampant.<sup>91</sup> Complementing the use of party-approved media – such as *The Paper* and *Caixin* – to expose corrupt “tigers,” platforms have also been set up for public supervision.<sup>92</sup>

### *The utility in psychological intimidation*

Following the 18th Party Congress, official reference to the extent of military graft steadily grew following the stripping of Xu Caihou’s CCP membership in

2014, and intensified when China's state media took the rare step of confirming the identities of senior officers investigated over corruption.<sup>93</sup> The unprecedented announcement on January 2015 of the initial list of 16 military "tigers" – coming a day after Xi Jinping presided over the Fifth Plenary Session of the CDIC<sup>94</sup> – and the second batch of 14 officers less than 50 days later, would have had a deterrent effect on PLA elites not to persist in their old ways. To be sure, those soldiers guilty of corruption and disciplinary violations were likely intimidated even earlier in October 2014 when Xi re-emphasized the basic principle that "the party commands the gun" at a PLA political work conference.<sup>95</sup> Against the backdrop of the probe into Xu, the "New Gutian Conference" was elicited by Xi to prompt senior officers' "profound reflection" on Xu's misdeeds.<sup>96</sup> Considering that the giving and taking of bribes was common practice among officers,<sup>97</sup> many of those present were likely daunted. With corruption acting as the glue that congealed most, if not all, Chinese military leaders, Xi has complemented the extant control mechanisms – rules versus discretion, sanctions, monitoring and reporting, screening and selection, and institutional checks and balances<sup>98</sup> – with his fight against military malfeasance to exert pressure on PLA elites to pledge their allegiance to him.

The arbitrariness with which punishments are meted out to their arraigned colleagues also gives Xi leverage in his strategic interactions with his uniformed subordinates since the latter's expectations of the consequences remain unclear.<sup>99</sup> While those indicted are certain to receive guilty sentences, the details of the investigations before arriving at their verdicts are less clear. For example, Xu Caihou's detainment in March 2014 was only made public some months later,<sup>100</sup> and the charges that he "had taken advantage of his position to assist the promotion of other people, accepted huge amounts of bribe personally and through his family, and sought profits for others in exchange for large amounts of bribe taking through him and his family members" lack any specific details.<sup>101</sup> Leaking to private media the identities of those caught in the web of corruption instead of officially confirming them,<sup>102</sup> also forces suspects to be on the defensive. That Gu Junshan was commuted to a suspended death sentence for providing evidence against his patron would have also informed other "tigers" to cooperate with the authorities. Whatever questions may be asked about the normative basis of using fear – or its efficacy and durability – psychological intimidation has served the commander-in-chief's requisite for authoritative civilian control.

### *Institutionalizing legitimate control of the gun*

In the same manner that China's domestic politics has moved away from a consensus decision-making model, Xi Jinping has integrated his re-emphasis on the "CMC Chairman Responsibility System" with his consolidation over the various CLGs to centralize military authority. Clearly not content with existing institutional controls over the military, he has strengthened the legal foundations of his office to hold it accountable to his rule.<sup>103</sup> In tandem, Xi has issued a series of decrees to his uniformed CMC subordinates for the latter to disseminate to, and guide, the actions of

the rank-and-file further down the chain of command. In November 2012, for instance, at an enlarged CMC meeting, Xi called upon the core PLA leadership to practise what they preach,<sup>104</sup> before reminding those same officers to take “a clear-cut stand against corruption” and “set an honest example.”<sup>105</sup>

With corruption prevalent among political commissars and logisticians, rules and regulations have also been adopted to strengthen internal discipline alongside circulars requiring the strict discipline of the military, and the anti-corruption campaign has since been complemented with structural and procedural measures to redress the civil–military imbalance through some of the following. Although exhortations of the CCP’s absolute control of the PLA – in view of the dearth of theoretical underpinning in the legitimacy of single-party rule – lacks organizational teeth,<sup>106</sup> the CMC has promulgated a series of laws and regulations focusing on the trading of ranks by political officers and logistical officers’ partaking in embezzlements.<sup>107</sup> Following the release of the second list of corrupt senior officers, some of these directives that target political commissars include “Decision to Promote Rule of Law and Strict Military Discipline under New Situation,” “Opinions on Strengthening the Supervision of the Work of Selecting and Employing Personnel,” “Regulations on the Management of Senior Officers’ Personal Secretaries,” “Regulations on Combat Officers’ Qualifications,” “Regulations on Governing the Work of Party Organizations in the Military,” “Regulations on Strict Military Discipline of Leading Party Members in the Military,” and “Opinions for Political Organs and Political Officers on Building Absolute Loyalty to the Party, Focusing on Combat Capabilities and Fine Work Style.” On the other hand, other CMC stipulations concerning logistics leaders across the various PLA services and commands, unsurprisingly, concern “Standards on Building and Renovating Military Barracks and Equipment” and “Comprehensively Implement Clean-up and Audit of Paid Services by the Military to External Parties.”<sup>108</sup>

## **Conclusion**

### ***PLA reforms and CCP authority: a preliminary assessment***

It would be remiss to overlook the fact that it had taken three years since Xi Jinping assumed power over the party’s coercive forces before his calls to reform this institution began to grow louder.<sup>109</sup> While there may have been utility in the time lapse to prepare his troops for change, it is not implausible that Xi first had to consolidate his CMC position to pre-empt elite resistance before exercising his military authority.<sup>110</sup> The clearest evidence of his success is gleaned from the events toward the end of 2015. Under the pretext of commemorating the 70th anniversary of Chinese victory in World War II, Xi broke with convention by staging a military parade early in his tenure, and also declared forthcoming troop reductions of 300,000 personnel as part of a larger military modernization program.<sup>111</sup> The reconfiguration of the PLA’s administrative structure and operational command was soon to follow.<sup>112</sup>

While these represent a genuine shift in line with modern defense requirements, they also serve Xi Jinping's political considerations by enhancing the power of his office in divesting the former General Staff Department (GSD), GPD, GLD and General Armaments Department (GAD) of their "over concentrated powers" and "independent command structure" which previously "impinged on the CMC's ability to exercise unified leadership."<sup>113</sup> With the administrative rank of the four former general headquarters adjusted and coming directly under CMC control, disciplinary and inspection processes have also been rectified by establishing CMC subsidiary organs to take over law enforcement and discipline from the GPD; while the GLD has also been divested of its auditing role.<sup>114</sup> Quite significantly, the civilian leader's ability to push through with service reforms evidenced by the setting up of the PLA Ground Force, PLA Strategic Support Force, and PLA Rocket Force, in addition to the reorganization of the seven former MRs into five theater commands;<sup>115</sup> further attest to his intrusion into PLA turf. Likewise, the CMC chairman's newly institutionalized role as "commander in chief of the CMC joint battle command center" reflects the extent of his power and "hands-on" control over operations.<sup>116</sup>

While the anti-corruption campaign has certainly paved the way for reforms, the restructuring also reinforces military compliance. Other than improving operational efficacy, the separation of the PLA's command and administrative functions prevents the devolvement of power to a single body or soldier – if it can be successfully implemented. As a few explications by authoritative commentaries in the *PLA Daily* have stated, internal bureaucratic opposition may yet limit the policy recommendations and obstruct meaningful structural changes. As one such example alluding to the "lack of discipline" in following procedures and enforcing standards pointed out, the key source of resistance to the reforms "comes from within, resulting from old mindsets and habits."<sup>117</sup> The final outcome, therefore, is contingent on subsequent support mechanisms that take the form of complementary policies and systemic designs. Whereas the use of greater civilian supervision has been underpinned by rules, regulations, and the use of penalties, these may only temper officers' corrupt inhibitions. In that regard, one need only look at earlier endeavors at codifying soldiers' behavior and rules setting to know they had not led to the desired outcomes.<sup>118</sup>

### ***From CCP–PLA to Xi Jinping–PLA relations?***

Although problems persist,<sup>119</sup> Xi Jinping's deep political interest and personal involvement in national security reforms has built up political consensus for asserting his authority over the military. In view of the issues of legitimacy and political gridlock, and the need to exercise tighter oversight over a PLA leadership that has been guilty of resisting legitimate civilian commands – especially at a time when China's external environment has grown more severe – Xi's concentration of power in his own hands would seem a logical development for the purpose of building a "revolutionary," "modernized," and "standardized" military.<sup>120</sup> In large part, the emergent reshaping of the Chinese

military has proceeded purposefully thanks to the civilian leader's authoritative relationship with the country's military elites. Despite the Politburo–CMC divide, Xi's equally dominant role within the party–state may mean that decisions passed in the CMC will likely be upheld by the CCP's civilian elites.

While the “right” balance between *subjective* and *objective* control remains an ideal to aspire to,<sup>121</sup> it is clear that Chinese civil–military relations in the Xi era has undergone a fundamental transformation owing to the authoritative civilian control of the CCP leader. In reclaiming the party's control of the gun, the CMC chair has restructured the military, utilized legal frameworks, established countervailing institutions, as well as turned to psychological intimidation to coerce his generals into submission through military ethics and monitoring mechanisms. Toward that end, the anti-graft campaign has empowered Xi to enshrine the norms of obedience in the PLA's rank-and-file, and afforded the CCP regime legitimacy. While the space for corruption has shrunk, the commander-in-chief has also re-emphasized the authority of his formal office and reinstituted internal checks and balances.

To assert that Xi now wields absolute control of the PLA, however, is premature, given how he continues to solicit the support of China's military leadership,<sup>122</sup> even as he limits its praetorian proclivities. Since his ascension, the civilian leader has pursued the military's conditional compliance by maximizing its corporate interests in terms of “enhancing the appeal of the military profession” and advocating that the top brass inculcate in the rank-and-file “a sense of military mission.”<sup>123</sup> In providing military elites pride of place in the party–state, Xi has simultaneously shifted their attentions outward,<sup>124</sup> by engendering “a sense of urgency or crisis” in China's external environment.<sup>125</sup> Incorporating populist nationalism, the PLA's proposal to declare an Air Defense Identification Zone over the East China Sea, for instance, promptly received Xi's blessings despite the reservations of Chinese diplomats.<sup>126</sup> For its part, the PLA has subordinated itself in the service of realizing a global order conducive to the attainment of Xi's “China Dream.”<sup>127</sup> Still, the implications of growing PLA professionalism and whether its compliance can be preserved during times of war deserve greater scrutiny. Whether Xi will succeed in reconciling the competing needs for the military to be both *red* and *expert* is another interesting question.

Achieving consequential changes to civil–military relations is a continuous process. Given that the divestiture process that was started 20 years ago will continue into 2020,<sup>128</sup> the task of enforcing civilian oversight over the PLA is clearly a formidable, if not impossible, undertaking. Indeed, much remains to be seen if Xi will be able to translate his growing political clout to effect meaningful changes. In defying the norm of functional division instituted by Deng Xiaoping to curb the excesses of having a Maoist “strongman” leader, the real problem for Xi may perhaps come when he does decide to retire – with the centralization of power in himself leading to challenges for his anointed successor. Nevertheless, his signature anti-corruption campaign has shifted the trajectory of civil–military relations in China.



**Notes**

- 1 "Obama Issues a Warning Over Xi Jinping's Growing Power," *TIME*, December 4, 2014.
- 2 See, for instance, David M. Lampton, "Xi Jinping and the National Security Commission: Policy Coordination and Political Power," *Journal of Contemporary China*, 24/95 (2015), 759–777; "Fruitful Visit by Obama Ends With a Lecture From Xi," *New York Times*, November 12, 2014.
- 3 For scholarly assessments of the CCP–PLA dynamic, see Michael D. Swaine, *The Military & Political Succession in China: Leadership, Institutions, Beliefs* (Santa Monica: RAND, 1992); Ellis Joffe, "Party–Army Relations in China: Retrospect and Prospect," *China Quarterly*, 146 (June 1996), 299–314; David Shambaugh, *Modernizing China's Military: Progress, Problems, and Prospects* (Berkeley and Los Angeles, CA: University of California Press, 2002); James Mulvenon, "China: Conditional Compliance," in Muthiah Alagappa (ed.), *Coercion and Governance: The Declining Political Role of the Military in Asia* (Stanford, CA: Stanford University Press, 2001), 317–335; Nan Li (ed.), *Chinese Civil–Military Relations: The Transformation of the People's Liberation Army* (Abingdon: Routledge, 2006); and more recently, You Ji, *China's Military Transformation* (Cambridge: Polity Press, 2016). PLA interference in politics includes its support for Mao Zedong's anointed successor, Hua Guofeng, in deposing the Gang of Four, and its subsequent backing of Deng Xiaoping to relieve Hua of his leadership.
- 4 "In Book, Xi Jinping Taints Ousted Rivals with Talk of Plots," *New York Times*, January 27, 2016.
- 5 You, *China's Military Transformation*, 37. Despite the secrecy of CCP elite politics, we can reasonably infer that PLA support was absolutely crucial to purging Bo Xilai – then a political heavyweight – from the echelons of power.
- 6 Concurrently, the anti-corruption campaign has removed former public and state security officeholders, of whom the former domestic security czar and member of the Politburo Standing Committee (PBSC), Zhou Yongkang, is the most notable. Following the 18th Party Congress, the head of the Central Politics and Legal Affairs Commission is no longer represented on the PBSC.
- 7 "Scores of PLA Officers Punished," *China Daily*, January 30, 2015. For the significance of grades and ranks in the PLA, see Kenneth W. Allen, "Assessing the PLA's Promotion Ladder to CMC Member Based on Grades vs. Ranks – Part 1," *China Brief*, 10/15, July 22, 2010.
- 8 Still, the number of leaders purged to date constitutes only a small number of CMC-managed officers. You, *China's Military Transformation*, 63.
- 9 Affinity between Xi Jinping and the uniformed members of the CMC has been the trend since Xi assumed the CMC leadership. Of the previous and current CMC, a majority share with their man a long association. A number of them, most prominent among them the present vice-chairman, Xu Qiliang, had either served in the former Nanjing MR encompassing Xi's previous Fujian and Zhejiang strongholds; or have been groomed for higher office since Xi assumed the CMC leadership. The other CMC deputy, Zhang Youxia, also shares Xi's revolutionary pedigree.
- 10 Interview with retired senior PLA officer, August 2015, Singapore. The actions of the two top soldiers notwithstanding, the central party leadership and its elites maintain strict operational control over all units.
- 11 The CCP's still dominant role is observable in the fact that those officers indicted on corruption are first stripped of their party membership before their cases were transferred to the military procuratorate.
- 12 You, Ji, "The Party/Army State in Great Transformation," *The Chinese Communist Party in Action*. Singapore, August 13, 2015.

- 13 Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil–Military Relations* (Cambridge: Belknap Press of Harvard University Press, 1957).
- 14 Even after relinquishing his party and state positions, Deng kept his CMC chair between 1981 and 1989.
- 15 The PLA’s cadre management system bypasses the CCP’s Organization department. Kenneth Lieberthal, *Governing China* (2nd ed.) (New York: W.W. Norton, 2004), 230.
- 16 Michael Kiselycznyk and Phillip C. Saunders, “Civil–Military Relations in China: Assessing the PLA’s Role in Elite Politics,” *Institute for National Strategic Studies China Strategic Perspectives*, No. 2 (Washington, DC: National Defence University Press, 2010).
- 17 See [www.chinavivae.com/biography/Xi\\_Jinping/career](http://www.chinavivae.com/biography/Xi_Jinping/career). Besides serving under a former defense minister as personal secretary, Xi held minor military roles in Hebei, Fujian and Zhejiang before his appointment as one of the CMC vice-chairmen alongside Generals Guo Boxiong and Xu Caihou at the Fifth Plenum of the Central Committee of the 17th Party Congress.
- 18 The PLA thus averts having to answer to “two centers” of power, and is granted access to the elite PBSC. Ellis Joffe, “The Chinese Army in Domestic Politics: Factors and Phases,” in Nan Li (ed.), *Chinese Civil–Military Relations* (Abingdon: Routledge, 2006), 17.
- 19 Mulvenon, “China: Conditional Compliance,” 317–319.
- 20 In that endeavor, Xi has also reminded the PLA to shape itself into a force commensurate with Beijing’s global stature in conformity with his “China Dream” – that is, a strong country should have an equally powerful military.
- 21 The term has since appeared in more than 100 military political work documents following the so-called New Gutian Conference. On the significance of this new institutional mechanism, see Chien-wen Kou, “Xi Jinping in Command: Solving the Principal-Agent Problem in CCP–PLA Relations?” *China Quarterly*, 232 (December 2017), 866–885.
- 22 According to press releases, China’s current leader spends at least half a day each week on military issues. As part of the recurring expression of allegiance toward its commander-in-chief, the *PLA Daily* has oftentimes declared to “resolutely adhere to the directions of the Party’s central leadership, the CMC and Chairman Xi.”
- 23 Whereas the incorporation of the eponymous *Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era* into the CCP’s constitution as well as Xi’s rejection of Dengist succession norms at the 19th Party Congress provide conclusive evidence of his unassailable position in the regime, dissenting voices among party elites had surfaced as recently as 2016. “Chinese Website Publishes, Then Pulls, Explosive Letter Calling for President Xi’s resignation,” *Washington Post*, March 16, 2016.
- 24 This follows the “Party Control” model described in David Shambaugh, “The Soldier and the State in China: The Political Work System in the People’s Liberation Army,” *China Quarterly*, 127 (September 1991), 527–568.
- 25 They include the CLGs for Comprehensively Deepening Reforms; National Security; National Defence and Military Reforms, among others. Such institutional mechanisms reinforce the subordination of the PLA to civilian rule, and circumvent other prominent governing institutions headed by other CCP elites. Alice Miller, “The PLA in the Party Leadership Decisionmaking System,” in Phillip C. Saunders and Andrew Scobell (eds.), *PLA Influence on China’s National Security Policymaking* (Stanford, CA: Stanford University Press, 2016), 58–83.
- 26 Notwithstanding China’s opaque political system, Xi’s pre-eminent status is patently reflected in his reduction of the number of uniformed members on the CMC from ten to six at the 19th Party Congress. “List of Chairman, Vice Chairmen, Members of CPC Central Military Commission,” *China Military Online*, October 25, 2017.



- 27 This is adapted from Peter D. Feaver, *Armed Servants: Agency, Oversight, and Civil–Military Relations* (Cambridge, MA: Harvard University Press, 2003).
- 28 For a study of the impact of economic reforms on China’s civil–military relations, see Paul H.B. Godwin, “Party–Military Relations,” in Merle Goldman and Roderick MacFarquhar (eds.), *The Paradox of China’s Post-Mao Reforms* (Cambridge, MA: Harvard University Press, 1999).
- 29 The purges have allowed Xi to break with the norm of having to defer to retired CCP leaders and elders.
- 30 “Qunian 15 ming jiang jun luoma Xu Caihou jia xianjin duiji rushan (quanwen)” [15 Generals Fell from Grace Last Year; “Mountains” of Cash Uncovered at Xu Caihou’s Home (full text)], *NetEase*, January 28, 2015. With development of the civilian economy given priority over military spending toward the end of the Cold War, the PLA was sanctioned to supplement its own income by turning to profit-making activities independent of the state. Ezra F. Vogel, *Deng Xiaoping: And the Transformation of China* (Cambridge, MA: Harvard University Press, 2011), 548–551.
- 31 Ironically, during the previous instance of the party’s military going to the rescue of its civilian master, the former was also plagued with corruption – albeit on a smaller scale. Andrew J. Nathan and Perry Link (eds.), *The Tiananmen Papers* (New York: Public Affairs, 2001), 10.
- 32 Dennis J. Blasko. *The Chinese Army Today: Tradition and Transformation for the 21st Century* (Oxford: Routledge, 2006), 192.
- 33 Bo Xilai’s purported courting of support from the 14th Group Army (GA) prior to his political demise has been cited as a key reason for his downfall. “Bo’s Ties to Army Alarmed Beijing,” *The Wall Street Journal*, May 17, 2012.
- 34 You Ji, “Unravelling the Myths About Political Commissars,” in David M. Finkelstein and Kristen Gunness (eds.), *Civil–Military Relations in Today’s China: Swimming in a New Sea* (Abingdon: Routledge, 2015), 156.
- 35 Within the first year of Xi’s administration, a video series on the Soviet collapse became compulsory viewing for cadres. “Twin Historic Traumas Shape Xi Jinping’s China Presidency,” *Washington Post*, March 2, 2015.
- 36 “Nan’er Xijinping” [Xi Jinping a True Man], *Deutsche Welle*, January 25, 2013.
- 37 Interview with Chinese scholar based in northwest China whose family members currently serve in the PLA Air Force (January 2016, Singapore).
- 38 Despite an expanding economic base, Chinese gross domestic product (GDP) nevertheless dipped to 7.7 percent in 2012 – the lowest since the turn of the century. With annual growth rates expected to decrease in the years ahead, the growth of Chinese military expenditure consistent with GDP increases means Beijing will likely exercise the power of the purse more prudently. For a recent study of China’s defense spending, see Adam P. Liff and Andrew Erickson, “Demystifying China’s Defence Spending: Less Mysterious in the Aggregate,” *China Quarterly*, 216 (December 2013), 805–830.
- 39 Official Chinese statistics indicate a typical PLA Navy vessel deployed to the Gulf of Aden costs 8 million *yuan* over four months. “China’s Defense Budget in Perspective,” *China Armed Forces*, 32/2 (Beijing, China: Military Department of Xinhua News Agency, 2015), 10–11.
- 40 “PLA Officers Make Rare Public Show of Disappointment at Military Budget Increase,” *South China Morning Post (SCMP)*, March 6, 2016.
- 41 “The Decision on Major Issues Concerning Comprehensively Deepening Reforms in brief,” *China Daily*, November 16, 2013.
- 42 “Jiaodian duihua: Xucaihou fanchuan, Jiefangjun da zhenhan?” [Focus Dialogue: PLA Shocked by Xu Caihou’s Removal?], *Voice of America*, July 4, 2014.
- 43 “The Three ‘Tigers’ behind Corrupt PLA General Gu Junshan,” *Want China Times*, December 12, 2004. Putting things in perspective, 600 million *yuan* is one-tenth of a

- percent of China's military budget in 2011; "Zhongguo jinnian junfei 6 qian yi yong yu yanfa xin wuqi ji hangmu jidi xingjian" [600 Billion *Yuan* China Military Budget This Year to be Spent on Weapons R&D and Aircraft Carrier Base Construction], *Phoenix TV*, March 10, 2011.
- 44 "Portrait of Vice President Xi Jinping: 'Ambitious Survivor' of the Cultural Revolution," *Wikileaks*, November 16, 2009. Xi's relatively clean slate – as was corroborated during an interview with a former Beijing-based CIA operative (March 2016, Singapore) – also gives him useful leverage over his political adversaries.
  - 45 While Xi's appropriation of the financial and economic affairs portfolio from Premier Li Keqiang has been interpreted as another attempt to seize power, it also reflects the priority Xi attaches to sustaining the CCP's performance legitimacy essential for the maintenance of social stability in China, and by implication, the PLA's compliance.
  - 46 The relationship between the military and the Chinese economy has been described as a symbiotic one; the PLA relies on economic gains to develop itself whereas the CCP safeguards economic development. Ren, Tianyou, Zhouxian Zhao, and Guangming Liu, "Zhongguo meng yinling qiang jun meng; Qiang jun meng zhicheng Zhongguo meng" [China Dream Marshals Strong Military Dream; Strong Military Dream Supports China Dream], *Qiushi* 23, December 1, 2013, available at: [www.qstheory.cn/zxdk/2013/201323/201311/t20131127\\_296233.htm](http://www.qstheory.cn/zxdk/2013/201323/201311/t20131127_296233.htm).
  - 47 Edward Luttwak, *Coup d'Etat: A Practical Handbook* (London: Allen Lane, 1968), 28–56.
  - 48 "The Diversified Employment of China's Armed Forces" stipulates that, despite that "the international situation remains peaceful and stable," "there are signs of increasing hegemonism, power politics and neo-interventionism" and that China still faces "multiple and complicated security threats and challenges" such as the US' rebalance strategy; China's maritime dispute with Japan over the Senkakus/Diaoyus; and the rise in terrorism, separatism, and extremism in its western border regions. *The State Council Information Office of the People's Republic of China (P.R.C.)*, April 16, 2013.
  - 49 Ibid.
  - 50 "Hu Calls for Efforts to Build China into Maritime Power," *Xinhua*, November 8, 2012.
  - 51 Accordingly, Guo's appointment had presented him with opportunities to "embezzle training budgets and take kickbacks for arms purchases." "'He Made Xi Jinping Very Angry': The Rise and Fall of Once-Powerful Chinese General Guo Boxiong," *SCMP*, July 31, 2015.
  - 52 In that regard, China may have been fortunate it has not engaged in major conflicts. On the other hand, the limited number of indicted frontline operational leaders suggests corruption may be a secondary consideration to PLA readiness. Dennis J. Blasko, "Corruption in China's Military: One of Many Problems," *War on the Rocks*, February 16, 2015.
  - 53 China's political structure lacks any mechanism analogous to the Office of the US Secretary of Defense in exercising civilian oversight. David M. Lampton, *Following the Leader: Ruling China, From Deng Xiaoping to Xi Jinping* (Berkeley, CA: University of California Press, 2014), 185–190.
  - 54 The PLA exercises due power on defense issues at the operational and (to a lesser extent) strategic levels. Phillip C. Saunders and Andrew Scobell (eds.), *PLA Influence on China's National Security Policymaking* (Stanford, CA: Stanford University Press, 2016).
  - 55 Andrew Scobell, "Is There a Civil–Military Gap in China's Peaceful Rise?" *Parameters* 39 (Summer 2009), 4–22. This is epitomized by the test flight of the J-20 stealth fighter coinciding with the meeting between Hu Jintao and Robert Gates. Andrew Scobell, *The J-20 Episode and Civil–Military Relations in China* (Santa Monica, CA: RAND Corporation, March 10, 2011).

- 56 You Ji, "The PLA and Diplomacy: Unraveling Myths about the Military Role in Foreign Policy Making," *Journal of Contemporary China*, 23/86 (2014), 236–254.
- 57 The party's control over the military is further enshrined with the 2013 and 2015 defense white papers.
- 58 "Shaojiang: Xu Caihou tamen jia kong dangshi de junwei lingdao ren" [Major Generals: Xu Caihou and Others Stripped Ex-CMC Chairman of Authority], *Phoenix TV*, March 9, 2015. See also "Interviews Exposing 'Widespread' Corruption in China's Military Disappears," *AsiaNews.it*, March 11, 2015.
- 59 John Garnaut, "Rotting from Within," *Foreign Policy*, April 16, 2012. One out of the four CMC leaders at the time was said to have disfavored the investigations; it is likely Xu Caihou was the person in question.
- 60 "Death Term Handed to Top Officer Commuted," *SCMP*, December 23, 2006.
- 61 Wang's corruption was brought to light only when one of his mistresses reported him to the authorities. "Fanfu fengbao zhong luoma de gaoguan" [High-ranking Officials Who Have Fallen in the Anti-Corruption Campaign], *Global People*, 274 (Beijing, China: People's Daily Press, 2015).
- 62 That Wang had stayed out of trouble for several years is attributed to his association with Jiang Zemin. Susan M. Puska, "Getting Rid of the Rust: Preparing Chinese Navy Leaders for High-Tech War," in Phillip C. Saunders, Christopher Yung, Michael Swaine and Andrew Nien-Dzu Yang (eds.), *The Chinese Navy: Expanding Capabilities, Evolving Roles* (Washington, DC: National Defense University, 2011), 175–190.
- 63 With Xu's backing, Gu apparently touted he would attain the rank of general and enter the CMC as a GLD director or deputy chief of staff. "[Te gao] zong hou fu buzhang Gu Junshan bei cha yi you liang nian" [Special Report: GLD Deputy Director Gu Junshan Had Been under Investigation for Two Years], *Caixin Online*, January 14, 2014.
- 64 "The Three 'Tigers' behind Corrupt PLA General Gu Junshan."
- 65 According to reliable sources, "a sum of one million *yuan* is not substantial enough to bring down a major general." "Junshi kexueyuan yuan buzhang Huangxing bei cha she xian Guogan pan jun xiemi" [Former Director of the Academy of Military Sciences under Probe for Allegedly Leaking Secrets to Kokang Rebels], *Phoenix News*, March 6, 2015.
- 66 In May 2016, the *PLA Daily* asserted that Guo and Xu's downfall had more to do with them "crossing political redlines" rather than corruption. "Chongfen fahui zhengzhi gongzuo shengmingxian zuoyong" [Give Full Play to the Use of Political Work Lifeline], May 25, 2016. See also "'Political Mistakes,' More Than Graft, Led to Downfall of Chinese Military Chiefs Guo Boxiong and Xu Caihou," *SCMP*, May 26, 2016.
- 67 "Major Generals: Xu Caihou and Others Stripped Ex-CMC Chairman of Authority."
- 68 "Guo Zhenggang beipu ceng kuangyan: Quan jun yiban yishang junguan wojia tiba de" [Revelations Guo Zhenggang Claimed More Than 50 Percent of Officers Promoted by His Family], *China News Weekly*, April 12, 2016.
- 69 Shortly after confirmation of Guo Boxiong's indictment, a commentary in the CCP-run *People's Daily* criticized ex-leaders for causing a dilemma for their successors by putting in place proxies to retain influence, and created "factions" and "mountaintop-ism," thus making it difficult for incumbents to carry out their work. While this criticism was apparently directed at Guo, it may well also refer to Jiang Zemin. "Renmin ribao sixiang zongheng: Bianzheng kandai 'ren zou cha liang'" [People's Daily Ideological Aspect: Scrutinizing the Phenomenon of "Tea Becomes Cold after One Has Departed"], August 10, 2015.
- 70 Still, one school of thought posits that not all corrupt officers are necessarily incompetent, as capable personnel were also under peer pressure to provide bribes.

- 71 More recent developments in the anti-graft campaign also saw the PLA's highest-ranking officer commit suicide: General Zhang Yang, a member of the previous CMC, hanged himself on November 23, 2017 while under investigation. "Chinese General Commits Suicide as Xi's Corruption Crackdown Grinds On," *Bloomberg News*, November 28, 2017.
- 72 "Fang Fenghui luoma ji" [Chronicling Fang Fenghui's Downfall], *Global People Magazine*, January 15, 2018.
- 73 James Mulvenon, "The Bo Xilai Affair and the PLA," *China Leadership Monitor*, 38, August 6, 2016.
- 74 "Senior Chinese Military Strategist 'Leaked State Secrets, Helped Rebels in Myanmar,'" *SCMP*, March 6, 2015.
- 75 "3 PLA Generals Investigated or Convicted," *China Military Online*, April 26, 2015.
- 76 "Jundui shenji shu zai shengge qian lishu zhong houqin bu, shencha Gujunshan shi hen ganga" [Investigating Gu Junshan was Awkward Prior to the Elevation of the Military Inspection Organs (to the CMC)], *The Paper*, November 7, 2014.
- 77 "Te gao: Gujunshan zhi di Gusan de wangguo" [Special Article: The Kingdom of Gu Junshan's Brother], *Caixin Online*, January 15, 2014.
- 78 The further consolidation of the logistics functions within each of the former seven MRs to promote operational jointness, coupled with lack of oversight, led to more corruption. "Beijing guancha: Houqin bu jundui fubai zhong zaiqu" [Observations in Beijing: Logistics Departments Become Anti-Graft Disaster Hotspots], *Takungpao*, April 28, 2015.
- 79 "Another PLA Officer Said to Run Afoul of Anti-Graft Investigators," *Caixin Online*, December 17, 2014.
- 80 "Xinjiang gong'an bianfang zongdui yuan zong duizhang Zhang Genheng deng 2 ren bei 'shuangkai'" [Ex-Xinjiang Border Defense Corps Leader Zhang Genheng and 2 Others Stripped of Party Membership and Official Appointment], *Central Discipline and Inspection Commission*, November 3, 2015.
- 81 Compared to the civilian sector, the number of corruption cases in the military realm is limited in scale and possibly indicates a measured approach to avert possible backlash from the PLA. Kevin N. McCauley, "President Xi Clears the Way for Military Reform: PLA Corruption, Clique Breaking and Making, and Personnel Reshuffle," *Jamestown Foundation China Brief* 15/3 (February 5, 2015).
- 82 China's anti-corruption efforts in recent years have been noted for "selectively" targeting officials whose political loyalty is suspect. Andrew Wedeman, *Double Paradox: Rapid Growth and Rising Corruption in China* (Ithaca, NY: Cornell University Press, 2012), 143, note 3.
- 83 Still, Zhang Haiyang's departure from his political commissar role of the former Second Artillery Corps was seen as "a forced retirement," "Two of China's Princeling Generals Retire as Part of Xi Jinping's Leadership Reshuffle," *SCMP*, January 2, 2015. Zhang's complicity in laying false accusations against his rivals has been documented in the *Financial Times* "China's Princeling Generals Hit by Bo Purge," May 7, 2012.
- 84 The recently retired General, Chang Wanquan, is believed to have accepted property from Gu Junshan but relieved himself of the impropriety prior to entering the CMC in 2012. Interview with Chinese scholar, August 2015, Singapore.
- 85 Tian Xiusi, Wang Jianping, and Wang Xibin are the only officers of MR-grade appointment to have been indicted to date.
- 86 Xi's aversion to the formation of military factions is cited by Cheng Li, "Promoting 'Young Guards': The Recent High Turnover in the PLA Leadership (Part 1: Purges and Reshuffles)," *China Leadership Monitor* 48, September 9, 2015.
- 87 "Xuexi daguo: Tianshang diao xia ge Guozhenggang, shifang sha xinhao" [Guo Zhenggang Drops from the Sky, What Message Does it Reveal?], *People's Daily*, February 3, 2015.

- 88 Interviews with a retired senior PLA officer and a Chinese scholar from a prominent PLA family, August and September 2015, Singapore.
- 89 "Inspection Teams to Cover All of Military," *China Daily*, May 6, 2016.
- 90 Michael S. Chase et al., *China's Incomplete Military Transformation: Assessing the Weaknesses of the People's Liberation Army (PLA)* (Santa Monica, CA: RAND Corporation, 2015), 63.
- 91 "Defense Ministry's Regular Press Conference on April 30, 2015," *Ministry of National Defense of the P.R.C.*, April 30, 2015; "China's Military's Anti-Graft Inspection Teams Target Senior Officers," *SCMP*, October 11, 2015.
- 92 "Chinese Military Opens Channels for Reporting Disciplinary Violations," *China Military Online*, February 16. The party's insistence on shaping the discourse on corruption means not all exposés by vigilantes have been welcomed.
- 93 In late 2014, there was also a heated public exchange when an academic alluded to "the prevalence of corruption among those who carry the gun." "Jiangjun yu xuezhe jiu Zhongguo yanse geming fengxian da chao zhenxiang shilu" [The Truth behind the Argument between a General and an Academic over the Dangers of the Color Revolution to China], *Global Times*, December 9, 2014.
- 94 The importance is demonstrated by Xi Jinping's presence at the event and its timing, which preceded the PLA's release of the inaugural list of purged officers. It also confirms the synergistic relationship between civilian and military inspection and discipline organs when personnel from the latter were invited to attend. "Jundui fanfu: Tuan yishang lingdao ganbu wei zhongdian" [Regiment-Level and above Cadres to be the Focus of Military Anti-graft Drive], *The Beijing News*, January 15, 2015.
- 95 The significance of this conference is understood from its status as the original site where Mao Zedong established the principle that "the Party commands the gun, the gun must never be allowed to command the Party." Mao Zedong, "Problems of War and Strategy," *Selected Works of Mao Zedong* Volume 2 (Beijing: Renmin chubanshe, 1991), 224.
- 96 "Xi Urges Serious Reflection on Xu Caihou's Case," *Xinhuanet*, November 1, 2014.
- 97 "Mingma mai guan: Shaojiang 1000 wan zhong jiang 3000 wan" [Protocol for Buying Ranks: 10 Million for Major General, 30 Million for Lieutenant General], *Oriental Daily*, June 23, 2015.
- 98 Comments made by Tai Ming Cheung at RSIS conference, Singapore, October 1–2, 2015.
- 99 Despite authoritative reportage indicating Gu Junshan had embezzled 600 million yuan, the PLA procuratorate declared that 500,000 yuan was impounded. "Gujunshan anjian yishen xuanpan hou junshi fayuan fuze ren da jizhe wen" [Military Procuratorate Person-in-Charge's Media Briefing on Gu Junshan's Verdict after First Trial], *Xinhuanet*, August 10, 2015.
- 100 "Former PLA General Xu Caihou to Face Court Martial over Graft Charges," *SCMP*, June 30, 2014.
- 101 "Military Procuratorate Answers Questions about Xu Caihou's Graft Case," *China Military Online*, October 29, 2014.
- 102 For instance, *China Military Online* quotes a Hong Kong-based paper on the network of corrupt officers. "16 PLA Officers on Graft List," January 16, 2015.
- 103 The new Political Work Department has more recently begun to revise and draft official documents to provide the legal basis for the PLA's subordination to its CMC chair. "Laoji shiming zhongtuo zhongshi lu zhi jinze" [Bear in Mind the Great Undertaking and Faithfully Discharge Duties], *PLA Daily*, February 6, 2016.
- 104 Xi, Jinping, "Build Up Our National Defence and Armed Forces," *Xi Jinping: The Governance of China* (Beijing: Foreign Languages Press Co., 2014), 237–239. Alluding to the party's control of the gun, Xi beseeched officers and soldiers to "make every effort to combat corruption and promote integrity in the army."



- 105 “CMC Releases Ten Regulations on Building Military Discipline,” *Xinhuanet*, December 21, 2012.
- 106 You Ji, “Myths about Political Commissars,” in Nan Li (ed.), *Chinese Civil–Military Relations: The Transformation of the People’s Liberation Army* (Oxford: Routledge, 2006), 109.
- 107 Between January and April 2015, the CMC put out a total of 12 decrees on enforcing military discipline.
- 108 “News,” *China Armed Forces*, 32/2 (Beijing, China: Military Department of Xinhua News Agency, 2015), 6.
- 109 The latest military reforms were officially announced in late November 2015, three years after Xi became commander-in-chief. The restructuring of the PLA was first mooted at the Third Plenary Session of the 18th Central Committee; and prior to that, at the moment of China’s political transition in 2012, see “Full Text of Hu Jintao’s Report at 18th Party Congress,” *Xinhuanet*, November 17, 2012.
- 110 Establishment scholars and senior PLA officers with whom the author had interviewed concur that Xi first had to consolidate his command of the military before he could reshape it, January 2016, Singapore.
- 111 “Full Text of Chinese President’s Speech at Commemoration of 70th Anniversary of War Victory,” *Xinhuanet*, September 5, 2015.
- 112 “Xijiping zai zhongyang junwei gaige gongzuo huiyi shang qiangdiao quanmian shishi gaige qiangjun zhanlue jianding buyi zou Zhongguo tese qiangjun zhi lu” [At CMC Reform Work Conference, Xi Jinping Stresses the Comprehensive Implementation of Reform Strategies to Strengthen the Military Unswervingly with Chinese Characteristics], *PLA Daily*, November 27, 2015.
- 113 Other than criticizing the four headquarters, a *PLA Daily* commentary also described the former seven MRs as fiefdoms. “Chong su wo jun lingdao zhihui tizhi shi qiang jun xing jun de biran xuanze” [Reshaping Our Command and Control Structure is an Inevitable Choice to Have a Strong and Powerful Military], November 30, 2015.
- 114 “Xi Urges Reorganized Military Organs to Focus on Winning Wars,” *Xinhuanet*, January 11, 2016.
- 115 For an overview of the recent reforms, see Phillip C. Saunders and Joel Wuthnow, “China’s Goldwater-Nichols? Assessing PLA Organizational Reforms” *INSS Strategic Forum* 294 (April 2016).
- 116 Despite Xi’s tightened control of the military, it may not necessarily equate to organizational oversight. You, Ji, “The Party/Army State in Great Transformation.”
- 117 “Zhansheng zhi lu” [Road to Winning Wars], *PLA Daily*, December 14, 2015. Interservices rivalry in the PLA are also alluded to in “China’s Army Keeps Grip on Top Military Jobs in ‘Compromise’ Reshuffle,” *SCMP*, January 6, 2016.
- 118 See, for example, “Jiefangjun shenji shu shenji zhang: Jundui lingdao ganbu geng xuyao jiandu” [PLA Audit Office: Leading Cadres in the Military Require More Oversight], *Xinhuanet*, January 24, 2005.
- 119 One such problem concerns the treatment of PLA veterans and the related issue of mustering out 300,000 men as part of the latest reforms. James Char, “Demobilized and Disaffected: Another Roadblock for China’s Military Reforms,” *Pacific Forum/CSIS*, October 20, 2016.
- 120 “Xijiping zai Jiefangjun daibiao tuan quanti huiyi shang qiangdiao lao lao bawo dang zai xingshi xia de qian jun mubiao” [Xi Jinping Stresses to PLA Delegation to Firmly Grasp the Party’s Goal for a Strong Military under New Conditions], *Xinhuanet*, March 11, 2013.
- 121 Andrew J. Bacevich, “Whose Army?” *Daedalus, the Journal of the American Academy of Arts and Sciences*, 140/3 (Summer 2011), 122–134.
- 122 Two days after the CCP announced its intention to scrap term limits on the presidency, the *PLA Daily* published a report on February 27, 2018 indicating that “all

officers and soldiers of the entire PLA and the People's Armed Police" firmly stated that they will "resolutely uphold the CCP Central Committee's proposal to amend part of the Constitution." While articles such as this can be interpreted as the PLA's backing for Xi, one might also argue that it was absolutely crucial that the CMC chairman had the support of his primary powerbase to overcome elite civilian resistance within the party. See also "China Moves to Let Xi Stay in Power by Abolishing Term Limit," *New York Times*, February 25, 2018.

- 123 "Xin Gutian huiyi: Xijiping wei jundui zhengzhi gongzuo kai 'yaofang'" [New Gutian Conference: Xi Jinping Prescribes Remedy for Military's Political Work], *News of the Communist Party of China*, November 2, 2014.
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## 2 The People's Liberation Army and China's Taiwan policy under Xi Jinping

One joint actor without its own agenda

*Arthur S. Ding*

The role of the Chinese People's Liberation Army (PLA) in China's security policymaking in general, and Taiwan policy in particular, has always attracted wide attention among China analysts.<sup>1</sup> The reason is not difficult to imagine, because the PLA has been involved in all the different stages of Taiwan-related policymaking.

Nevertheless, in the party–military context, a question is asked: What is the relationship between the highest Chinese Communist Party (CCP) leader, the general secretary, and the PLA in this decision-making? Does the military follow the party leader's instruction, and to what extent can the military influence the decision-making process?

China's political system makes this policymaking involvement complicated. In China, the chairman of the Central Military Commission (CMC), the highest military authority, theoretically and ostensibly stands side by side with the top leaders of the CCP<sup>2</sup> and the government,<sup>3</sup> constituting one part of the trifecta, which is composed of the party,<sup>4</sup> the government, and the military. If the military can stand apart from the government, as well as the party, it is logical to speculate that the PLA can have an influential and important, if not critical, role in Taiwan policymaking.

This chapter aims to address one core question: What is the status of the PLA and Taiwan policy under Xi Jinping? To be more specific, this author tries to answer the following questions: What is the state of party–military relations following the 18th Party Congress? What are the implications of this party–military relationship for Beijing's Taiwan policy? What is the potential impact of Taiwan's leadership transition on China's Taiwan policy and the PLA's role?

This author argues that, following the 18th Party Congress, Xi Jinping has surprised many China analysts by consolidating all powers in his hands within a very short time. He has been able to rein in the military. His preference for the adoption of a proactive and assertive approach in the context of China's growing capabilities empowers him to control the discourse of Taiwan policy. In these circumstances, the PLA will continue to be one joint actor within the relevant apparatus that implements Taiwan policy without its own agenda. Uncertainty as a result of the ruling party rotation in Taiwan is unlikely to change the PLA's role.

**Xi as *the* leader**

In hindsight, it is not an exaggeration to point out that the 18th Party Congress is a watershed in contemporary Chinese politics, with the ascendancy of Xi Jinping to become the party General Secretary, State President, and CMC chairman simultaneously, and his ability to rapidly consolidate his power, characterizing this transition.

Since taking the crown, Xi Jinping has been portrayed as the most authoritative leader with power relatively comparable to that of Mao Zedong or Deng Xiaoping, with some describing him as another Mao or Deng. This outcome has come as a surprise to many China analysts, and even probably to the Chinese population and Chinese political elites. Efforts have been made to analyze how this has happened.<sup>5</sup>

Many aspects of Xi's authority can vividly demonstrate the extent of his power, and this has serious implications for Chinese party-military relations and China's Taiwan policy. The first concerns the institutional perspective. Xi has concentrated all powers in his hand. Unlike Xi, his two predecessors, Hu Jintao and Jiang Zemin, did not concentrate all powers in their hands, and implemented a division of labor with their colleagues on the Politburo Standing Committee (PBSC).

For instance, Jiang and Hu only assumed some institutional leadership posts, including those of CCP General Secretary, State President, CMC chairman, the heads of CCP Central Leading Small Groups for Taiwan Affairs, Foreign Affairs, and National Security, while leaving the post of CCP Central Leading Small Group for Finance and Economy (CLSGFE) to their premiers, Zhu Rongji 朱镕基 and Wen Jiabao 温家宝, respectively. By contrast, Xi has also assumed leadership of the CCP CLSGFE.

This outcome has serious implications for power distribution. Theoretically speaking, or at least during the Jiang and Hu era, the CCP General Secretary has been first among equals among PBSC members; every decision should be made based upon collective decision-making, and each PBSC member is assigned an area of responsibility. Nevertheless, the new practice after the 18th Party Congress indicates that the current Premier, Li Keqiang, does not have finance and economics as his own turf anymore and, for everything else, he has to follow Xi Jinping's lead; Xi is the real boss, and Li, probably along with other PBSC members, is probably just one of Xi's subordinates.

Second, what should be noted is that Xi has set up several new task force units within the CCP, and he is the leader of all these new task force units, and all other PBSC members serve as his assistants. These new party units are: the Leading Small Group for Comprehensively Deepening Reform (LSGCDR) 中央全面深化改革领导小组, the Central National Security Commission (CNSC) 中央国家安全委员会, the Leading Small Group for Internet Security and Informationization 中央网络安全和信息化领导小组, and the CMC's Leading Small Group on Deepening Reform of the Defense and Military 中央军委深化国防和军队改革领导小组.

Taking the LSGCDR as an example, it is said that the leading small group is the highest unit dealing with reform in all aspects of the party and state. The group is headed by Xi Jinping, followed by three deputy heads, who are Li Keqiang, Liu Yunshan (刘云山) (the PBSC member in charge of propaganda) and Zhang Gaoli (张高丽) (the PBSC member in charge of the daily operations of the State Council). In addition, there are 19 other members in the group.

The CNSC is another example indicating this fact. As the decision-making and coordination body over the national security work of the CCP Central Committee (CC) that reports to the CCP Politburo and its Standing Committee, its functions include integrating and coordinating major issues and important work. Xi Jinping is the chairman of the CNSC, and Li Keqiang and Zhang Dejiang 张德江, chairman of the National People's Congress (NPC) Standing Committee, are vice chairmen. The point here is that Xi Jinping is the real boss in China now who personifies authority over the party, government, and military.<sup>6</sup>

In addition to concentrating all powers, institutional and non-institutional, in his own hands, his anti-corruption campaign has definitely helped enhance his power. Those sacked by the campaign include party, government, and military officials. The highest-ranking official to be sacked by Xi is Zhou Yongkang 周永康, formerly a PBSC member who stepped down at the 18th Party Congress in the fall of 2012. This practice breaks a long-established convention reportedly set after the end of the Cultural Revolution, which is that PBSC members are immune from legal action.

In the military, the most astonishing development is probably that the two former CMC vice chairmen, Guo Boxiong 郭伯雄 and Xu Caihou 徐才厚, who had also stepped down at the 18th Party Congress, were also sacked from the CCP by Xi on corruption charges. There is no doubt that Xi's action of arresting the two former vice chairmen has definitely shocked the whole of the military, and along with the Zhou Yongkang case, has helped strengthened his control over the PLA.

It should be emphasized that sacking these two former vice CMC chairmen is likely to create a psychological impact, and to force high-ranking military officials to further show their loyalty to Xi. One charge leveled on Guo and Xu is that they had taken huge bribes from lower-ranking officials, with investigations supporting this charge. Nevertheless, the details of these investigations have never been disclosed. It is reasonable to speculate that with only a very few exceptions, most PLA officials had paid bribes to gain promotion. Non-disclosure of the investigations will definitely make those who had paid bribes nervous, because they are not sure if they would be removed from their jobs,<sup>7</sup> and charged with bribery. In the end, the lack of disclosure has become Xi's leverage with which he can then exert pressure on other high-ranking military officials, forcing them to show their loyalty to him in order to keep their jobs.<sup>8</sup>

Complementing Xi's powerful leadership through the extensive anti-corruption campaign in the military are "carrots" (i.e., incentives) so that Xi can win the hearts of his troops. A good case is that he has raised the salaries of military personnel on a large scale: in early 2015, he raised the salaries of all

soldiers by between 25 percent and 40 percent, where the salaries of those within the lowest ranks (such as sergeants and below) had the highest increase of 40 percent, while those within the higher ranks received a lower raise. The media also reported that the pay rises among the different service groupings were differentiated, with the highest increase going to the former PLA Second Artillery Force (PLASAF) (which was renamed the PLA Rocket Force in January 2016), followed by the PLA Navy (PLAN) and the PLA Air Force (PLAAF), with the ground forces getting the lowest raise.<sup>9</sup> Accordingly, this was also the third salary increment in six years.

The above cases of the anti-corruption campaign and pay rises indicate that Xi, wielding both a carrot and a stick, knows how to rein in the military. On the one hand, he has shown his determination and will by launching his anti-corruption campaign so that his orders will be implemented. On the other hand, he knows the need to win hearts and minds. With both a carrot and stick in hand, his policy can surely be pushed from the above down to the rank-and-file level, and no one can challenge him.

In addition to the carrot and stick approach, Xi rapidly promoted his people in the military and at the same time got rid of those perceived to be problematic. One typical case of promotion is that of Lieutenant General (LTG) Zhang Shuguo 張書國. LTG Zhang was a corp (Group Army, GA) Major General (正軍級) in 2010 as the political commissar of the 39th GA of the Shenyang MR, but in six years he was promoted to full theater (formerly MR) grade (正戰區級) as the political commissar of the CMC Logistical Support Department.

In fact, there has been a large-scale personnel reshuffle in the military by Xi in the past five years. Analysis indicates that almost all the commanders and commissars of the GA have been changed, and a reshuffle has also been conducted at the deputy theater level (副戰區級) and above.<sup>10</sup> This move indicates that putting his people in all important posts was Xi's attempt to consolidate his control of the military.

Another case demonstrating the ousting of those perceived to be problematic is that of General Cai Yingting 蔡英挺. General Cai, who was the commander of the Nanjing MR at that time, was one of a few who were promoted to the three-star rank by Xi immediately after Xi became the CMC chairman. Many analysts predicted that General Cai would have a promising future because, on the one hand, he had strong support from the former CMC vice chairman Zhang Wannian 張萬年 and, on the other hand, he was promoted to the rank of full general immediately after Xi became the CMC chairman. Nevertheless, he was transferred to become the Academy of Military Science (AMS) president, and later removed from the post of president.

It should be emphasized that the investigation of the military continued and many serving and retired generals were arrested. Two recent cases can be highlighted. The first one concerns General Wang Jianping 王建平 who was a serving deputy chief of staff of the newly reorganized Joint Staff Department when he was arrested. The second one has to do with General Wang Xibin 王喜斌, a three-star general who retired from the PLA National Defense University

presidency post, who was also arrested. This indicates that although power has been consolidated, Xi has not slowed down the pace of investigating those perceived to be problematic.

In fact, Xi has paid much attention to the PLA since taking the post of CMC chairman. He frequently visits and makes inspections of the military, and statistics show a higher frequency of visits to the military than that of his predecessor, Hu Jintao. Between December 2012 and August 2014, Xi visited all seven of the PLA's former MRs,<sup>11</sup> the PLAN, PLAAF, PLASAF, the People's Armed Police (PAP), the Jiuquan launching center, and the National Defense University for Science and Technology, totaling the number of his visits to PLA installations to 16.<sup>12</sup>

In addition to his frequent interactions with the rank-and-file, a second feature distinguishing Xi from Hu over visiting the military is that he has made special trips to visit PLA units before paying inspection visits to localities, while Hu did the opposite: visiting the military units after having inspected the localities. This implies that for Hu, visiting the military units was secondary to localities, while for Xi, visiting the military units, at least, is as important as his trips to the localities. This also implies that Hu might not have been so interested in military affairs, while Xi was fully aware of the important role that the PLA plays in his political calculus.

Third, Xi has given clear-cut instructions to the military on each of his visits. Put briefly, he has instructed the military to follow the Three Adherences (*sange laoji* 三个牢记): following the CCP's command is the soul to strengthen the military; the ability to fight and win wars is the prerequisite to strengthening the military; and conforming to governing the military by rule of law is the fundamental basis for enhancing military capabilities. All these may imply, at least, that Xi shows his devotion to military affairs, to build up his prestige in the PLA, and eventually to win over the troops as their top leader.

Xi's authority reached another peak in October 2016. At the 6th plenary meeting of the 18th Party Congress, Xi was formally called "the *hexin* 核心 (core) of the CCP party center." Previously, Xi's status was lower, and he was called "Xi as the General Secretary of the CCP party center." This signaled that his power had been fully consolidated.

All the above observations point in one direction. That is, Xi Jinping is a strong leader of China today. This implies that he has firm control of the military, along with other apparatus, and the military has to follow his orders. The comprehensive military reform formally launched in 2016 confirms his firm control of the military: he was able to completely overhaul the military system, which had been in operation for more than six decades. The reform measures included: restructuring the traditional four general departments and replacing them with 15 new departments/offices,<sup>13</sup> along with a new ground force headquarters and five new theater commands.

What should be particularly noted in this systemic overhaul of the military is that he was able to completely restructure the four traditional powerful general departments, slash their level of authority, and bring all of the reorganized 15



new departments/office directly under the CMC as staff units within 3 years.<sup>14</sup> With this overhaul, old power turfs within the military establishment could be totally broken, and his control of the PLA could be further consolidated.

For instance, the previously powerful General Staff Department (GSD) had about 20 first-level sub-departments/offices, along with several military academies/colleges. After the restructuring, at least seven sub-departments/offices were removed, these seven units being the Technical Reconnaissance Department (Jishu zhencha bu 技术侦查部), Electronic Countermeasures Department (Dianzi dui kang bu 电子对抗部), Military Training Department (Junxun bu 军训部), Strategic Planning Department (Zhanlüe gui hua bu 战略规划部), Mobilization Department (Dongyuan bu 动员部), Foreign Liaison Office (Waishi bangong shi 外事办公室), and Army Aviation Department (Lujun hangkong-bing bu 陆军航空兵部).

Along with these systemic changes, the grades (级别) of military leaders of the first-level new sub-departments/offices have been downgraded. For instance, it was reported that in the new Joint Staff Department (Lianhe canmou bu 联合参谋部), the grades of the heads of the new sub-departments, except for the Operation Department (Zuozhanbu 作战部), were downgraded from the full *corp* (GA) (正军级) level to the *deputy corp* (副军级) level.<sup>15</sup> It can be imagined that with this downgrading, the authority of the heads of the new sub-departments was also reduced. In Chinese political culture, extremely strong political power is required to slash the authority of government officials on such a massive scale.

What are the implications of Xi's ascendancy for China's party-military relations and Taiwan policymaking that we can draw from the above analysis? There is no doubt that these developments demonstrate that Xi Jinping has consolidated his power. He is *the* leader that no other current Chinese political elites can challenge. As China's new commander-in-chief, he can rein in the PLA and win the military's full allegiance, while the military implements his decision-making and carries out his instructions, including Beijing's Taiwan policy.

Furthermore, the overhaul of the PLA will inevitably downgrade the top military elites' status and in turn enhance Xi's power over the PLA. As pointed out above that at least seven sub-departments have been removed from the GSD, and that the GSD's size and functions have been shrinking following restructuring, the new head of the Joint Staff Department will no longer be so powerful. Three other general departments have also experienced similar developments and, ultimately, the status of the top military elites has been downgraded. This has definitely helped consolidate Xi's power.

In addition, the overhaul may have the effect of breaking pre-existing personal *guanxi* networks, which, in turn, enhances Xi's power. Along with the anti-corruption campaign, the overhaul definitely involves restructuring the previous military organization; old *guanxi* in building factions probably does not work anymore, and a realignment of *guanxi* may be developing. Xi can take advantage of this possible realignment to enhance his authority.

The next question is: To what extent has Xi consolidated his power, and is the degree of his power comparable to that of Deng and Mao? While he has

certainly consolidated his power, it has probably not reached a level comparable to those of Deng and Mao, because both his predecessors were founding members of the republic with strong charisma, while Xi, like many post-revolutionary bureaucrats who have been promoted to high-ranking posts, does not have outstanding credentials.<sup>16</sup>

The way Xi has consolidated his power reflects this deficiency. Unlike Mao and Deng who had strong charisma built from revolutionary experience, and to whom allegiance was probably unconditional, Xi, who lacks charisma, has relied on three tools to consolidate his power, namely, his anti-corruption campaign, strong nationalism and material incentives, and the promotion of his people.

This implies that for Xi, allegiance paid to him by the PLA is probably conditioned upon the three tools, and he probably should not take the PLA's allegiance for granted. This means that Xi has outperformed his two predecessors, Jiang Zemin and Hu Jintao, in terms of power consolidation, but has not reached a level comparable to that of Mao and Deng.

Despite the fact that Xi may have the deficiency stated above, he has very much outperformed his two immediate predecessors. With fear and love, as well as opportunity as a result of the overhaul of the PLA, he can have the PLA carry out decisions regarding Taiwan as long as his Taiwan policy is not challenged by his colleagues in the PBSC.

### **The PLA in Taiwan policy: contemporary practice and policymaking structure**

It is not an exaggeration to say that, before the 1980s, the PLA was the primary actor in dealing with Taiwan, and such a role can be dated back to the civil war period between the rebellious CCP and Chiang Kai-shek's Nationalist government before 1949. With the defeat of Japan in 1945 immediately after the end of World War II, the Nationalist government in mainland China under the Kuomintang (KMT) became the primary target of the CCP overnight, whose only goal was switched to militarily defeating the Nationalist government. In the circumstances, the PLA executed military operations while other apparatus, such as the CCP United Front Department, performed other functions in order to build up a correlation of force conducive to the CCP's goal.

After 1949 when the Nationalist government had retreated to Taiwan, the PLA remained the primary actor dealing with Taiwan, and it is not difficult to understand the reason. The newly established government in Beijing, the People's Republic of China (PRC), had attempted to complete the un-finished mission of militarily crushing the Nationalist government forces and reunify Taiwan.<sup>17</sup> The slogan at that period was "liberating Taiwan by force." Under these circumstances, again, the PLA played a primary role with assistance from the other CCP and state apparatus.

In order to militarily defeat the Nationalist government and regain Taiwan before and after 1949, relevant organizations were set up in the PLA to help accomplish the mission, and this paved the way for the PLA's primary and



influential role in Taiwan policy. Two most important units were the Intelligence Department (ID) (Qingbaobu 情报部) and the Liaison Department (LD) (Lianluobu 联络部) under the former GSD and General Political Department (GPD), respectively.<sup>18</sup> The two first-level sub-departments have different functions and missions: the ID is responsible for military operations-related intelligence, while the LD is responsible for penetrating the Nationalist army and instigating defections, among other missions.<sup>19</sup>

The two sub-departments built up sufficient practical experience after a long-term military confrontation with the KMT – at least extending from the civil war period since 1945 – and with these experiences, they gained influence over China's Taiwan policy. For instance, Major General Yang Side 楊斯德, as an LD official, penetrated the KMT and instigated members of the Nationalist forces to defect during the civil war period, and engaged in underground work organizing secret CCP units within the KMT. His actions reportedly made tremendous contributions to the CCP's ultimate victory.<sup>20</sup> Yang was later appointed head of the LD and head of the CCP Central Office for Taiwan Affairs 中共中央台湾工作办公室, which is the staff unit that provided support to the CCP Central Leading Small Group for Taiwan Affairs (CLSGTA) 中共中央对台工作领导小组.

Another example is that of Major General Wang Zaixi 王在希. Wang served in the ID for a long time as an analyst on Taiwan defense/military-related affairs, and was promoted to deputy director of the ID at the Major General rank. In the 1990s, Wang was appointed a deputy head of the Taiwan Affairs Office (TAO) under the State Council and the CCP simultaneously. Both Wang and Yang's appointments can attest to the influence of the PLA on Taiwan policy.

A third case reflecting the importance of the PLA in Taiwan policy is the composition of the CCP CLSGTA. In June 1993, the leading small group was reorganized: the General Secretary Jiang Zemin was the head of the group, while General Xiong Guangkai 熊光楷, a deputy chief of staff of the GSD, along with others, was invited to become a member of the leading small group.<sup>21</sup> Before Xiong, it was Yang Shangkun 杨尚昆, who was then vice chairman of the CMC, who had been chairing the leading small group.

Because of the influence of the PLA in general, and the LD in particular, on Taiwan policy, military officials used to occupy important posts. In the early period when the CCP Central Office on Taiwan Affairs was established in order to provide support to the CLSGTA, the central office under the leadership of Major General Yang Side was mostly occupied by staff from the LD of the GPD,<sup>22</sup> because Yang knew his former LD colleagues well.

The PLA has played a leading role in the clandestine contact between Taiwan and China, beginning in the late 1980s. It was reported that a clandestine contact between Taiwan and China was made in 1992 and this contact lasted for several years.<sup>23</sup> It should be noted that, at that time, Yang Shangkun, who was trusted by Deng Xiaoping before being removed in late 1992, was vice chairman of the CMC under Jiang Zemin and the PRC President simultaneously, thus facilitating this contact.

The person under Yang Shangkun executing the process in person in China was Yang Side, along with others. The latter, fully trusted by Yang Shangkun, was the head of the CCP Central Office on Taiwan Affairs in 1985. The person responsible for hosting the first visiting Taiwanese group in the clandestine contact was Major General Ye Xuanning 叶选宁. Ye, who is the son of Marshal Ye Jianying 叶剑英, was the head of the LD at that time, most probably after Yang Side.

Entering the twenty-first century, a new round of contacts between retired military officials on the two sides of the Taiwan Strait was kicked off. During this period, dialogues on conflict prevention/conflict management and confidence-building measures (CBMs) in order to keep peace and stability in the Taiwan Strait were the main themes.<sup>24</sup> Again, the LD and its higher commanding unit, the GPD, continued to play the primary role.

Two inter-related reasons contributed to the need for the CBMs-related dialogues. The first drew from the 1995/96 Taiwan Strait crisis and it was hoped that transparency derived from agreed CBMs would result in predictability and stability. Fear as a result of the presidential victory by Chen Shui-bian of the Democratic Progressive Party (DPP) in the 2000 presidential election in Taiwan further enhanced the need for stability in the Taiwan Strait, because Beijing had no trust at all in the DPP regarding the latter's advocacy of pursuing "Taiwan independence."

In July 2001, a group of 40 retired Taiwanese military officials traveled to China in the name of commemorating the "July 7 Anti-Japanese War" program.<sup>25</sup> Reportedly the largest group ever with the highest level of retired military officials to visit China, this group was headed by retired General Xu Linong 许历农 whose final assignment in the Taiwanese military before his retirement was as the head of the General Political Warfare Department 总政治作战部. Their counterpart in Beijing was the PLA GPD, with then GPD deputy director General Tang Tianbiao 唐天标 hosting them to dinner in the Great Hall of the People. It was reported that many issues were covered through their dialogue, including potential military conflicts in the Taiwan Strait and their consequences, CBMs, and the trajectory of China's external development.<sup>26</sup>

Similar dialogues became more frequent after 2005. In the spring of 2005, the CCP under Hu Jintao and the KMT under Lien Chan 連戰 jointly released a report underlining their vision for cross-Strait relations.<sup>27</sup> Among the five issues that both parties promised to work together on, there was agreement to facilitate an end to the official "hostility" status, and arrive at a peace agreement, a vision which was ranked 2nd among the five issues. This joint statement was later included in the KMT's campaign platform in 2008 and the party's mission. President Ma Ying-jeou's landslide victory in the 2008 presidential election further boosted this aspiration. Among the policy platforms that he had promised, Ma vowed to push for the end of hostilities and to develop CBMs with Beijing.

One case, which is related to the exchange between the two militaries and can show the LD's role, can be provided. In Taiwan, the Association for Sun Tze

Studies, ROC (ASTS) 中华孙子兵法研究学会 was established by retired LTG Fu Weigu 傅慰孤 on January 10, 2007 with a view to undertaking cross-Straits exchanges with the PLA so that the goal of a peaceful Taiwan Strait and win-win situation could be achieved.

Fu retired from the Taiwanese Air Force as vice commander in July 2003. After establishing the association, he had worked hard to build up exchange programs with the PLA.<sup>28</sup> Concrete activities included: inviting retired PLA officials to Taiwan to conduct visits and meetings, organizing visits for retired Taiwanese defense officials to China for policy dialogues with their PLA counterparts, and dispatching Taiwanese delegations to participate in PLA-organized Sun Tze conferences. It is said that the number of mutual visits between 2007 and 2014 was around five. It should be noted that all Taiwanese delegates were retired military officials without any authorization from the Taiwan government.

It is interesting to note that Lieutenant General Fu's counterpart at the time was the LD of the GPD, with the LD playing a dominant role in all these exchange activities. By way of reciprocity, all delegation members from China who visited Taiwan were also retired PLA officers. One LD proxy, the Association for the Promotion of Chinese Culture (CPCC) 中华文化促进会,<sup>29</sup> has persistently played the role of hosting Taiwanese groups and organizing teams to visit Taiwan, although it must be noted that not every team member in this group has worked within the LD system. For instance, one Chinese member to visit Taiwan was retired Major General Fu Lique 傅立群, who, for a long time, worked at the AMS, and retired as deputy director of the Department of World Military under the AMS.

Two points can be inferred from the above cases. The first is that the PLA has been active in Taiwan policy, and continues to play a primary role, although political developments in the Taiwan Strait have fundamentally changed since 1978 when the reform policy was launched, military confrontation gave way to peaceful development and exchange, and the PLA's role switched from military operations for reunification to politically deterring Taiwan from pursuing "independence"<sup>30</sup> and promoting reunification in the Taiwan military.

The second is about the division of labor in the PLA, and the LD played a prominent role in this regard after 1978. It is not difficult to figure out the reason: peace was to be upheld in the Taiwan Strait so that China could concentrate on economic development without external threats. In these circumstances, penetrating Taiwan by means of the LD was a viable approach with the expectation of influencing Taiwan's military.<sup>31</sup> This indicates that the CCP and PLA could flexibly make adjustments in their Taiwan policy depending on the overall situation.

A caveat should be given regarding the division of labor in the PLA's involvement in Taiwan policy. The above-mentioned cases seem to indicate that the LD and GPD played a bigger role in Taiwan policymaking after the reform had started in 1978 while the ID was put on the back burner. In fact, this may not be the case, because the ID and military operation-related agencies were frequently briefed about developments in Taiwan, so that relevant plans could be made and adjusted accordingly where necessary.<sup>32</sup>

Despite the fact that the PLA had been playing a primary role both before and after 1949, it should be pointed out that its role was limited to executing instructions from the civilian leadership, rather than pushing its own agenda. The above case of the clandestine contact and the dialogues can explain this direction. In 1989, Yang Side was head of the CCP Central Office for Taiwan Affairs, which was the staff unit of the CCP CLSGTA, and he had to execute the party's instructions in carrying out the clandestine contact mission.

Furthermore, Ye Xuanning's job was that of a host. Probably built upon mutual trust so that the clandestine contact would not be disclosed, and based upon existing expertise, so that they knew how to play the hosting role without breaching the CCP's fundamental principle, Ye was thus assigned the job. A secret venue far away from Beijing city that was apparently used by Marshal Ye Jianying as his summer home in northern Beijing was chosen. This implies that under the orders from the apex of the Chinese leadership, the LD executed the hosting job.

In fact, the 1992 clandestine contact reportedly had its origins in Hong Kong in the late 1980s. Major General Yang Side, along with Wang Daohan 汪道涵 and Xu Mingzhen 许鸣真, was the person to contact his Taiwanese counterpart, Mr. Su Zhicheng 苏志诚. Su was former President Lee Tenghui's trusted secretary. The official status of Yang Side at that time was as head of the CCP Central Office for Taiwan Affairs, and there were no other PLA officials participating in the clandestine contacts at that time as Wang Daohan and Xu Mingzhen were not military officials. This implies that the PLA did not dominate the contacts, but instead the PLA worked with other parts of the CCP apparatus to execute the decisions.

The clandestine contacts continued after Jiang Zemin became CCP secretary general and chairman of the CMC in 1989 as well as the state president in 1992. Directly under Jiang, Zeng Qinghong 曾庆红 who, as the head of the CCP Central Committee Central Office 中共中央办公厅, was fully trusted by Jiang, played the key role of giving instructions to Ye Xuanning to make the clandestine contact. Ye was then Head of the LD of the GPD.

The composition of the CCP CLSGTA also demonstrates that the PLA did not dominate Taiwan policymaking. Xiong was only one of the group members, which also included Qian Qichen 钱其琛 as deputy head of the group and vice premier in charge of foreign affairs, Wang Zhaoguo 王兆国 as minister of the CCP United Front Department, Jia Chunwang 贾春旺 as Minister of the State Security Department, and Wang Daohan as the head of the Association for Relations Across the Taiwan Straits (ARATS) 海峡两岸关系协会.<sup>33</sup> This composition vividly emphasizes that the military was one actor that could not set and push its own agenda; instead, it had to jointly work with other parts of the apparatus to implement and execute decisions reached by the group reporting to the Politburo or the elite PBSC.

The above analysis demonstrates a fundamental principle. That is, the PLA is only one joint actor working together with other party and government apparatus in executing policy formulated by the CCP's top leadership with the common

goal of achieving ultimate reunification with Taiwan. The division of labor and assignment of functions are both decided by the CCP civilian leadership, although the PLA's functional expertise probably does play a role.

One question needs to be addressed: Why does the PLA, as one joint actor along with the other apparatus, have to execute decisions reached by the CCP leadership? The answer to this question is simple: the PLA, in the party-state system, is an integral part of the CCP under the party-government-military tri-*fecta* composed of elites from the three sectors. It is the PLA's right and obligation to participate in the party's decision-making through established channels<sup>34</sup> and, as a result, the military has to abide by and execute instructions from its civilian masters.

In fact, in addition to the CCP CLSGTA, PLA leaders also sit on all security policy-related leading small groups, and their opinions can be aired to the CCP leadership. Furthermore, the PLA persistently accounts for around 22 percent of the total number of regular CC members since the 1990s, and they always have two high-ranking Generals sitting in the Politburo.<sup>35</sup> This indicates that Chinese military elites are key members of the CCP and fully participate in all major national security decision-making. There is therefore no excuse for them not to execute decisions made by the party leadership.

The above analysis points to the fact that, despite its primary and active role in Taiwan policy, the PLA remains a part of the decision-making process in which other parts of the party and government apparatus also play their respective roles with the ultimate decision being made by the civilian PBSC. Any decision and policy reached at the highest level implies a consensus among the highest officials, and the PLA has to follow whatever decision is made or policy is reached at the highest level, because the PLA is a full constituent of China's party-state political system.

### **China's Taiwan policy and the PLA's role under Xi**

Taiwan-China relations entered another juncture as Taiwan's opposition party, the DPP, won a landslide victory in the January 2016 presidential and parliamentary elections. What will this impact have on Taiwan-China relations, and will the PLA's role in Taiwan policymaking change as a result?

A simple answer is that although the election outcome did have some impact, and that some measures have to be adopted in order to put pressure on Taiwan to meet China's expectations and deter it from pursuing "Taiwan independence," a moderate approach in order to bring about further social integration between Taiwan and China remains in the policy mainstream for China, and there will be no change in the PLA's role, implying that the PLA will remain one joint actor within the relevant apparatus in Taiwan policymaking.

After President Tsai took office, relations between Taiwan and China deteriorated. Although President Tsai is committed to maintaining the status quo on the two sides of the Taiwan Strait with a focus on peace, stability, and democracy, her statement on the China policy does not explicitly endorse what China

expects her to say in relation to the One China principle.<sup>36</sup> While she did implicitly mention the One China policy, a move which was perceived as a compromise from the previous position of the DPP, Beijing is not completely happy with her statement.<sup>37</sup>

As a result, China unilaterally terminated all communication channels as a form of punishment and in order to exert pressure. These include channels such as those between the Mainland Affairs Council and TAO, the Strait Exchange Foundation of Taiwan and the Association for Relations across the Taiwan Straits of China, as well as economic-related exchanges between the two sides. Even regular exchanges conducted by government-related think tanks on the two sides have been suspended in order to send a clear-cut signal to Taiwan that there is no intention to resume dialogue and communication if President Tsai does not explicitly endorse the One China-related policy.

Pressure from the diplomatic front is also mounting. For instance, in regard to international organizations, Taiwan was not allowed to participate in the International Civil Aviation Organization meeting, which was held in September 2016 in Montreal, Canada. This move obviously reflects Beijing's pressure, because at the same meeting held in 2013, Taiwan, under the ruling party, the KMT, which adopted a friendly policy toward China, was invited.

In addition to terminating those regular exchanges at the official level and exerting diplomatic pressure, the PLA has not sat idle. In December 2016, China's only aircraft carrier, Liaoning, along with other warships, cruised east of Taiwan. Earlier, the PLA's aircraft also flew east of Taiwan.<sup>38</sup> Speculations over the motivation and significance were raised, but one thing was sure, which was that, without Xi's approval, it would have been unlikely for the PLA to make such a perceived provocative move.

To some extent, these moves have helped Xi dominate Taiwan policy, although they were not welcome in Taiwan. Since the DPP won the January 2016 election, there were growing voices in China articulating that China's conciliatory policy toward Taiwan in the past three decades had failed, because the number of those who identified themselves as Taiwanese in Taiwan had increased, and the DPP had become stronger, and hence there was a need to employ force to reverse this trend in Taiwan. In these circumstances, initiating such punishment moves is probably a political necessity in order to dominate Taiwan policy.

To some extent, making a move to initiate punishment is in line with Xi's style. Xi's Taiwan policy (including foreign policy) is perceived as being both proactive and assertive. Two frequently cited examples can be given. The first is the adoption of the M503 flight route. In January 2015, the Chinese government unilaterally announced the setting up of a new flight route, the M503, west of the virtual middle line in the Taiwan Strait, in order to allay air traffic congestion between Hong Kong and Shanghai, and the new route was to be in place on March 5, 2015. The Taiwan government made a protest immediately after the announcement on the grounds that the new flight route was too close to the virtual middle line, being only 7.8km to the west of the line, and flight safety



between Taiwan and its offshore islands as well as Taiwan's air defense could be impacted. A compromise was reached later when China postponed the implementation of the new route until March 29, 2015.

The core question involves Xi's style. According to public sources, the idea of kicking off this new route can be dated back to 2007 when DPP President Chen Shui-bian was in office. Taiwan protested and requested that the US put pressure on China not to launch the flight route. In the end, China backed down. It should be noted that Hu was the Chinese leader at that time, while Taiwan and China confronted each other due to perceived provocations by President Chen Shui-bian over many policies.

It is widely perceived that Hu and Xi differ in their style. Perceived as a moderate leader who did not resort to confrontational approaches, Hu frequently factored in Taiwan's opinion in formulating Taiwan policy so that the Taiwanese people's hearts could be won. Xi has been perceived differently and takes policy positions as he sees fit, and it is not coincidental that the new flight route was implemented under Xi after the proposal had been put aside for several years.

What should be pointed out is that Xi made the decision regardless of good relations with the KMT. The M503 flight route announcement was made when the KMT under President Ma was in power. The KMT, with its endorsement of its own version of the One China principle, had been proud of its relations with Beijing, and Taiwan's attitude could have been factored in for formulating Taiwan policy under Hu. Nevertheless, Taiwan was not informed in advance when Beijing announced the flight route, indicating that, despite the good relations, Xi unilaterally made the decision regardless of the KMT.

In fact, a similar instance can be pointed out. In November 2013, China announced the setting up of its air defense identification zone (ADIZ) in the East China Sea, and this announcement surprised the world in general, and Japan in particular, because the ADIZ covered the disputed Diaoyutai Islands. Sources said that the idea of the ADIZ was proposed by the PLA Air Force when Hu Jintao was the China leader, but Hu reportedly instructed the PLA to consult with the Ministry of Foreign Affairs, after which its implementation was aborted. One year after Xi became leader, the ADIZ was formally implemented.<sup>39</sup>

Another example indicating Xi's assertive style concerns the adoption of Taiwanese compatriot cards by the Chinese government. Beijing announced the adoption of the new card in September 2015 on the grounds that the new card would be more convenient for Taiwanese traveling to and in China. Nevertheless, Taiwan's government was informed only 20 minutes before the announcement. Furthermore, no information was released in response to Taiwan's concern regarding the privacy of personal information stored in the microchip on the new cards. All these cases demonstrate Xi's style.

In fact, China is adopting a two-pronged approach toward Taiwan. In addition to the punishment measures stated above, China is also attempting to strengthen social integration between the two sides of the Taiwan Strait. For instance, in his report to the annual Chinese People's Political Consultative Conference (CPPCC) meeting held in March 2016, CPPCC chairman Yu Zhengsheng 俞正声

pointed out that a new program would be launched by Beijing for Taiwanese youth so that they can learn about China's progress and achievements in the hope that the trend toward Taiwan independence can be reversed. The new program is referred to as "first-hand experience exchanges" (tiyanshi jiaoliu 体验式交流).<sup>40</sup>

As we enter 2017, more measures have been taken by Beijing. For instance, many provinces and major cities have set up large numbers of business incubators, along with the provision of financial and administrative assistance, for young Taiwanese to start their businesses with a goal to attract Taiwan youth. In addition, rumors abound over offering national treatment to Taiwanese in the areas of education, employment, medical treatment, and insurance so that they can develop their careers in China. All of these points indicate that a two-pronged approach is being adopted, so that while political warning signals are being given, Taiwanese will not be alienated completely.

What do the above-mentioned developments imply for party-military relations and for the PLA's role in Taiwan policymaking? They imply that Xi is fully aware of political developments in Taiwan, and is able to adopt necessary actions as he sees fit in order to dominate Taiwan policymaking and control the Taiwan policy discourse domestically. Doing things this way can strengthen his position politically and empower him to take the lead in Taiwan policymaking.

As for the PLA, its function has somewhat changed. Exchanges undertaken by the GPD system in previous years with a view to changing the Taiwan military's political attitude and ultimately supporting reunification have given way to launching military operations with the goal of politically deterring Taiwan, particularly the DPP, from pursuing "Taiwan independence." The PLA is following Xi's instructions to execute his mission.

## **Conclusion**

Following the 18th Party Congress, to the surprise of many China analysts, Xi Jinping consolidated all powers in his hand, becoming *the* leader of China, although the extent of his power is probably not yet comparable to that of Mao and Deng. Two instruments that reflect both a carrot and stick approach that have helped him consolidate power are his signature anti-corruption campaign and the provision of material incentives to the military, along with the rapid promotion of junior military officials as his people. Through an anti-corruption campaign that is unprecedented in Chinese history since 1949, he is feared, but through the material incentives, he is also loved by his troops.

With such a power base, he has been able to rein in the military completely and an unprecedented reform of the Chinese military sector under him has been launched. China's party-military relations have reached a new "normal" in which he, in the name of the CCP and as the core of the CCP, can exert absolute control over the gun while the gun pays absolute allegiance to him.<sup>41</sup>

Although uncertainty in the Taiwan Strait as a result of the DPP's landslide victory in the January 2016 election lies ahead of Xi, it seems that he has



handled the situation well without any collateral damage. The two-pronged approach of combining punishment/warning measures to politically warn Taiwan and the provision of attractive programs to woo Taiwanese has allowed him to dominate Taiwan policymaking and leaves no room to anyone to challenge him over his Taiwan policy.

If the above analysis is right, what are the implications for the PLA's role in Taiwan policymaking over the next several years? In a nutshell, it is likely that the PLA will act jointly with other parts of the apparatus to implement decisions made by Xi. The only difference from Hu's era is that the PLA's function will be shifted to launching deterrence actions, while the rest of the apparatus will be tasked with providing more incentives to Taiwanese youth in order to promote social integration.

In general, as for the PLA's role in relation to Taiwan policy under Xi, as long as Xi is able to maintain his leadership and makes no mistakes on Taiwan policy, he will be able to rein in the military, and the PLA's function is expected to be limited to implementing his orders. The PLA, as an integral part of the CCP, and where Taiwan policy is concerned, has no agenda of its own at all. The PLA is but one of a number of joint actors along with the rest of the party and government apparatus.

### **Post scriptum**

What are the implications of the 19th Party Congress held in October 2017 and the 13th NPC held in March 2018 for Xi's power, Xi's control of PLA, and PLA's role in Taiwan policymaking? Briefly speaking, there is no change at all as Xi has fully consolidated power after the 18th Party Congress.

One useful indicator to gauge the degree of power consolidation is to check what happened at both major events. At the 19th Party Congress, no political successor after Xi has been designated, indicating he is able to break the three-decade old convention of designating a political successor before the beginning of incumbent party general secretary's second term so that the successor has time to learn to be China's next leader.

At the 13th NPC, one proposed constitutional amendment to lift the two-term limitation of State President<sup>42</sup> was unanimously ratified by all the delegates, indicating Xi is able to stay as State President after 2023 when his second term expires, and another three-decade old convention was broken by him. Also, his thought was written into the PRC Constitution, equating him with Mao Zedong and Deng Xiaoping. After the 13th NPC, Xi overhauled the party and state organization with a focus on strengthening the party's control of the state agencies.

The two events have strong implications for Xi's power, Xi's control of PLA, and PLA's role in Taiwan policymaking. Breaking the two three-decade old conventions and strengthening the party's control of the state agencies mean that Xi has been not only able to consolidate power, but to personalize all power in his hands through the party's line of command and Premier Li Keqiang can be

bypassed. With this personalized power, he cannot be challenged anymore, and theoretically speaking, Xi can stay as long as he wants in the name of rejuvenating China.

Consolidation and personalization of power imply his complete rein of PLA. He continues to launch anti-corruption campaign in PLA and many more high-ranking Generals were sacked before and after the 19th Party Congress. The most shocking case was the arrest of Gen Fang Feng-hui 房峰輝, formerly the head of Joint Staff Department, and Gen Zhang Yang 張陽, formerly the head of Political Work Department; the both generals were arrested immediately after they had stepped down from the positions before the 19th Party Congress, and there is no doubt that the arrest has frightening effect.

Xi put a new line up of his people in the CMC after the 19th Party Congress. What surprises outside analysts is the promotion of Gen Zhang Shenmin 張升民 to become a CMC member; Gen Zhang is CMC Disciplinary Commission Secretary. This personnel arrangement conveys a strong signal that anti-corruption and clean-up of cliques associated to Guo Boxiong and Xu Caihou will remain a top priority under Xi, and this will help Xi to rein the military.

If Xi can rein PLA, PLA will follow Xi's instruction on Taiwan policy without its own agenda. In fact, despite the fact Xi can rein the military, Xi continue to roll out and wield "carrot" and "stick" policy to justify that he is the leader that all Chinese can count on for the ultimate reunification of Taiwan, and he should stay for unspecified term.

A typical case of the "carrot" approach is that, on February 28, 2018, China announced a new program,<sup>43</sup> which consists of 31 clauses and covers different industries. The essence of the new program is to offer national treatment to Taiwanese and Taiwanese businesses who choose to reside, develop, and study in China. With this new program, it is expected that at least certain level of dependency can be consolidated. On the other hand, Xi spares no time to exert military pressure by dispatching military jets and ships to patrol around Taiwan in the name of routine training. With the both carrot and stick measures, he can have the PLA follow his Taiwan policy.

## Notes

- 1 For a most recent publication on this subject, see Saunders and Scobell (eds.) *PLA Influence on China's National Security Policymaking* (Stanford, CA: Stanford University Press, 2015).
- 2 According to the CCP's party charter, the members of the party's CMC are decided by the Central Committee (CC), while the party's General Secretary is also elected by the CC members at the plenary session, implying that the status of the party CMC chairman is as high as that of the General Secretary. Although the CMC is under the CC in theory, there is no wording in the party charter explicitly stipulating that the General Secretary is the CMC chairman; rather, it is the convention set at the 14th party congress in 1992 in which the former General Secretary Jiang Zemin was concurrently designated the PRC State President and the chairman of the CMC at both the party and state levels. However, this convention was breached briefly in 2002–2004 when Jiang Zemin stepped down as CCP General Secretary and PRC

State President while remaining chairman of both the party and State CMC for two years due to loopholes in the party charter and the state constitution which do not specify how long the CMC chairman can stay in these two posts. Consequently, this created a conundrum: Who can command the PLA?

- 3 According to the People's Republic of China's Constitution, the State CMC's chairman is elected directly by delegates of the National People's Congress (NPC), implying that the status of the State CMC chairman is as high as that of the PRC's State President who is also elected directly by the NPC delegates. The State Council Premier is nominated by the President, but approved by the NPC delegates. This arrangement implies that the three roles share equal status in theory. Furthermore, theoretically speaking, the State CMC chairman should answer to the NPC and the NPC Standing Committee, but in practice the chairman has never been invited to testify at the NPC and NPC Standing Committee; rather, only the Defense Minister under the State Council, who is the nominal head of the defense ministry, answers to the NPC.
- 4 In a party-state system like that of China, all of the state apparatus, including the party, government, and the military, are integrated parts of the whole party.
- 5 Fewsmith 2013.
- 6 For a recent commentary on Xi Jinping's power, see Manuel 2015.
- 7 For an analysis on the recent personnel reshuffle in the military, see Li 2015.
- 8 Another side of the coin is that much lower-ranked military officials will have better opportunities to be promoted because the anti-corruption policies may open up many slots for them.
- 9 "2015 nian jiefangjun budui zhanggongzi gaige zhengce zuixin xiaoxi" 2015. In fact, after the military and defense overhaul started, another round of pay raises was introduced, and its range was about 15–35 percent with an ultimate goal of reaching a level that was 30 percent higher than that for non-military civil servants of the same bureaucratic rank. On this, see Lin Chenyi 2016.
- 10 Li 2015.
- 11 It should be noted that the previous seven MRs have been restructured into five theater commands in Xi's recent military reform, which was formally launched in 2016.
- 12 This part regarding Xi's visits to military installations draws from Shen 2014.
- 13 The four traditional general departments were: the General Staff Department (GSD), General Political Department (GPD), General Logistics Department (GLD), and General Armaments Department (GAD). These four general departments, although under the leadership of the CMC, were independent in terms of administration including both functions of the military command and military administration. After the restructuring, the 15 new departments/offices came under the CMC's staff, but without command authority.
- 14 For an initial analysis of this overhaul, see Allen, Blasko, and Corbett 2016a, 2016b.
- 15 Interview with a retired PLA official, Taipei, February 2016.
- 16 David Shambaugh made an observation recently, arguing that Xi may not complete his two terms due to the fact that there was a flyer in China criticizing Xi and requesting that Xi step down, and this symbolizes that there is much grumbling and discontent within the elite. "Writing China: David Shambaugh, China's Future" 2016.
- 17 For an analysis of the military operation against Taiwan after 1949, see Niu, 2004.
- 18 It should be pointed out that the GSD and GPD, along with other general departments, have been restructured by CMC chairman Xi Jinping beginning January 1, 2016, and the new names are the Joint Staff Department (聯合參謀部) and Political Work Department (政治工作部), respectively. It is not clear if these two sub-departments continue to function, because rumors abound that Xi plans to set up the Chinese version of the Defense Intelligence Agency of the US Department of Defense by merging the ID, LD, and other related units.
- 19 For an analysis of the LD and the GPD, see Stokes and Hsiao 2013. In addition to Taiwan affairs, the LD also handles international analyses and exchanges through two

proxy agencies, the Center for Peace and Development, and the China Association for International Friendly Contact.

- 20 For Yang Side's short bio, see <http://baike.baidu.com/view/210379.htm>.
- 21 Kuo 2009, 132–133.
- 22 Tsai 2000, 50.
- 23 Wang 2016, 207–226. According to this author, this clandestine contact came to a complete stop in 1999 after President Lee Teng-hui made a remark to German media indicating that Taiwan and China were to have special state-to-state relations.
- 24 It should be pointed out that Taiwan and China had different goals and approaches regarding the CBMs issues. For an analysis, see Ding, 2011.
- 25 Japan launched a large-scale invasion of China on July 7, 1937, and this day was chosen to be commemorated every year since 1945 by both the KMT and CCP after Japan surrendered.
- 26 This portion is cited from Qi 2009. Dialogues organized by Gen Xu Linong (ret) did not last long, because, by being perceived as pro-China and pro-reunification, he was criticized in Taiwan.
- 27 “Hu Jintao yu Lien Zhan” 2005.
- 28 All sources on this case are based on a personal interview with LTG Fu conducted in December 2015. Again, exchanges between the ASTS and its Chinese counterpart did not last long, probably because it had neither authorization from the Taiwanese government nor funding to support and sustain the exchange.
- 29 The CPCC is one of the LD's proxy institutes with missions to promote Chinese culture and deal with Taiwan's retired military officials. Major General Xin Qi 辛旗 was the standing deputy head and Senior Colonel Zheng Jian 鄭劍 was the General Secretary.
- 30 Niu 2004.
- 31 It should be emphasized that no authorization was given to those retired Taiwanese military officials to undertake CBMs and conflict prevention/management-related engagements with their Chinese counterparts during former President Ma's period in office. Since President Tsai took office in May 2016, there have been no related exchanges at all. The military and diplomatic sectors on both sides are the only sectors that have not built direct communication channels as of today.
- 32 Interview with a retired senior analyst, Beijing, September 2015.
- 33 Members of this leading small group changed in accordance with changes in Taiwan–China relations. For instance, as economic ties become closer between Taiwan and China, particularly after the 17th Party Congress held in October 2007, the former Minister of Commerce, Chen Deming 陈德铭, became a member of the group in order to provide opinions related to economic issues. Kuo 2009, 151.
- 34 For an analysis on various channels, see Glaser 2015.
- 35 For related analyses of the CCP CC and Politburo, see Li 2013.
- 36 For a detailed analysis on difference of position between President Tsai and China, see Romberg 2016.
- 37 China also noted her compromise, and regarded her statement as an “incomplete text,” expecting her to do more. For a comment on this regard, see Bush 2016.
- 38 It should be noted that both the aircraft and the naval fleet did not enter Taiwan's ADIZ area, indicating that Beijing was sending a political signal rather than engaging in military provocation at this stage.
- 39 Personal interview with a Chinese analyst who has a PLA background. December 2013.
- 40 Li et al. 2016. For a comment on this new program, see Liu 2016.
- 41 A frequently asked question concerns how the CCP General Secretary will function after Xi.
- 42 In CCP's party charter, there is no term limit for the General Secretary and chairman of the party CMC. Nevertheless, the two-term limit for State President is written in the PRC Constitution.

- 43 The formal title of the new program is “guanyu cujing liangan jingji wenhua jiaoliu hezuo de ruogan cuoshi” (關於促進兩岸經濟文化交流合作的若干措施). See [www.gwytyb.gov.cn/wyly/201802/t20180228\\_11928139.htm](http://www.gwytyb.gov.cn/wyly/201802/t20180228_11928139.htm).

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### 3 A worsening Sino–US geostrategic battle in Asian maritime domains

*You Ji*

To many Chinese analysts, repeated intrusions by US vessels into the 12 nautical miles (nm) of China-held islands in the South China Sea (SCS) since October 2015 and continued US aerial surveillance in the Chinese Exclusive Economic Zone (EEZ) have been a thorn in Sino–US relations. In the air, the overflights of US spy planes have increased in both frequency and are pushing closer to the People’s Liberation Army’s (PLA) coastal bases. Out at sea, the 12nm entry may have become routine under the Trump Administration to challenge China’s SCS claims.<sup>1</sup> In response, the PLA has more vigorously intercepted the incoming US aircraft and shadowed American warships into China’s SCS holdings. This cat-and-mouse game vividly symbolizes militarized Sino–US interaction in Asia’s maritime domain, progressively geared toward combat.<sup>2</sup> Another EP-3 or USS *Impeccable* incident looms large. Senior officers of both armed forces have openly called for “fight tonight.”<sup>3</sup> Certainly both sides also have full understanding of the consequences if the rising tension is not brought under control. They have attempted to put the safeguards in curbing the intensity of any hostile encounters at sea and in the mid-air in view of the unpredictability these close-in contacts may generate. As with the overall bilateral relations that have entered a phase of unprecedented contention since 1972, Sino–US military strife has visibly oriented toward more hostility. This chapter will assess the causes, processes and consequences of Sino–US maritime conflicts in the East and South China Seas (ESCS), a topic that has recently gained great currency. In assessing military encounters in the ESCSs it will test the action–reaction patterns of Sino–US conflict dynamics and thence offer insights for a better understanding of the balancing behavior of the two states in meeting their different policy objectives and priorities.

#### **The conceptual context**

All nations have a hierarchy of foreign policy priorities and make rational choices according to the perceived importance of varied national interests. This involves a complex process of goal setting, calculation of the means and the ends, cost-effective options to maximize gains and minimize losses, as well as the timing factor for a brinkmanship move to be made.<sup>4</sup> The major powers are



conscious of their policy behavior and its consequences on both domestic and global politics. The Asian maritime conflicts have presented a serious challenge for *Zhongnanhai* and the White House to manage their emerging collision course with Washington identifying China's as a strategic rival and looming Sino–US trade war.<sup>5</sup> Their policies and actions in meeting this challenge has so far entailed a three-level strategic calculus: (1) at the top is how to preserve the overall bilateral relations; (2) in the middle is how to forge a new US strategy against China's maritime assertiveness through both diplomatic and military means and how China responds to protect its sovereignty; and (3) at the bottom is how to pursue tactical measures on-the-spot to avoid irreversible confrontation through demonstrated resolve, e.g., US freedom of navigation patrols (FONOPs), and the PLA's intercepts and shadowing. Barring an outright naval confrontation, each country tries to bring about the desired effects in this three-level interaction under the constraints of inadequate means. Washington has been constrained by a complex interdependent relationship with Beijing, e.g., the needs to have the latter's support over a number of international affairs, whereas Beijing has to face the fact that its assertiveness has to be mounted from a position of obvious weakness vis-à-vis a strong US military presence in the region.<sup>6</sup> It is therefore not surprising that both countries still aim to preserve a workable bilateral relationship as a priority in their three-level strategic calculus: Xi's US policy remains non-confrontational, while Trump continues to praise Xi as a good friend who has given him a lot of help.<sup>7</sup> If America continues to handle China's rise by way of catered balancing – *not* containment – and much less, direct military actions, Beijing can expect to avert a showdown with Washington through tactical compromises, evidenced by the trade negotiations in the first week of May.<sup>8</sup>

Despite this, however, the general trend in the bilateral relations seems to point to a direction of more conflicts and less reconciliation in the years to come. With a US elite consensus fostered that China is a strategic peer competitor, the hedging-based strategy is under pressure to change in the direction of selective containment. The tendency of Sino–US maritime disputes hijacking the overall bilateral relations has gained momentum.<sup>9</sup> Sino–US maritime tension has now been structured into the global geostrategic politics, rendering it difficult for their respective militaries to back down from their announced positions.<sup>10</sup> It may be too late to convince Trump of Xi's non-challenge to US global leadership. On the other hand unless Washington finally figures out how to deal with the China challenge, it still tries to avoid an expensive standoff in the three-level interaction. Therefore compartmentalizing maritime tensions from the overall Sino–US relationship has been the means for managing the conflicts. So far, each side has restrained itself from pushing the other into a corner. This parallel and ironic evolution of hostility *amid* enhanced contact has been reflected by Admiral Richardson's visit to the *Liaoning* on July 19, 2016 at the peak of the SCS animosity in the aftermath of the ruling. The PLA's disinvitation from the "Rim of the Pacific" (RIMPAC) exercises in 2018 reaffirms the theory that Sino–US relations are most complex and crucial.<sup>11</sup> Yet as the bilateral ties

increasingly reach the tipping point, a serious question needs to be addressed: how long will this precarious balancing can last.

To be sure, Sino-US structural conflicts of interests reflect the nature of their military ties. As long as the Pentagon targets China as a potential adversary in its war scenarios, its routine surveillance in the SCS and in Chinese EEZ will increase. Similarly, PLA intercepts will intensify accordingly. Yet in order to maintain an overall working relations, both sides have handled the encounters professionally so that past accidents would not be repeated.<sup>12</sup> They recognize that every one of those events – though not necessarily leading to war – carries the potential of a crisis.<sup>13</sup> The series of confidence-building measures (CBM) agreements that both sides have signed on naval encounters highlights the need to regulate naval actions and civilian maritime law enforcement in the high seas and waters around Chinese EEZ. Tactically, it sets the rules of engagement in disciplining the individual behavior of the frontline officers and in prohibiting excessive provocations. If unwanted military confrontations can be avoided, politically, it helps state leaders manage a broadly-based relationship.<sup>14</sup> Based on an analysis of PLA views on US FONOPs, this author argues that Sino-US interaction in the SCS and Chinese EEZ is subject to the aforementioned three-level strategic calculation. From the bottom-up, each is relatively tactical to the one immediately above it.

However, since the texture of the Sino-US maritime competition is zero-sum, the defining lines of the three-level interaction are thin. For instance, when overall Sino-US relations are locked in structural strife, their military rivalry is a core component. US surveillance along the PLA coastal bases thus becomes a strategic necessity to offset the latter's long-range power projection. To Ashton Carter, military superiority is an effective mechanism in shaping the long-term direction of overall bilateral ties and it is not appropriate to separate the SCS issues from the overall bilateral relations.<sup>15</sup> Tying the SCS dispute to managing overall Sino-US ties is also popular among senior PLA officers. In their view, tactical CBM efforts in the form of naval-encounter agreements cannot substitute suspicion with trust. Accidents or unintentional actions are bound to happen.<sup>16</sup>

So far, a maneuvering space for ambiguity is created by the two militaries to prevent this “cat-and-mouse” game from evolving into a combat situation. For instance, FONOPs has been criticized as an unsuitable term to describe the 12nm entry, as its tone of innocent passage may entail recognition of the legality of Chinese holdings.<sup>17</sup> Yet in effectively reconciling the conflicting objectives in the three-level strategic pursuits, this term has been an expedient characterization that reduces the intensity of Chinese counter-actions. In Beijing's judgment, the US FONOPs push testifies to the fact that a military solution on SCS tension is not yet on Pentagon's table.<sup>18</sup> The PLA's bold SCS moves may be due to its underestimation of US resolve in countering China's maritime claims but have captured the dilemma of Washington in addressing the challenge from another top power.<sup>19</sup>

Under these circumstances, achieving an equilibrium is critical in pursuing the three-level strategic objectives: the overall bilateral relations prioritize; a US

strategy (the FONOPs) against China's assertiveness is necessary and so is the PLA's reaction; and the need for CBMs is respected in averting vicious accidents. Thus FONOPs is probably a cost-effective choice of guidance, if not a correct depiction. A key question here is whether this balancing motivation would lower the severity of confrontation once a grave event occurs.

### **The US 12 nm entry as a game changer in the bilateral military relationship**

US SCS intervention by way of FONOPs has weakened China's position in Asian sovereignty dispute. For instance, USS *Curtis Wilbur*'s patrol near the Triton Island in January 2016 was an explicit measure to support Vietnam's claim. A second such passage took place in June 2017 when Vietnam's Premier visited Washington, certainly not a mere coincidence. These two FONOPs may be meant to challenge China's exclusive claims in the Paracels. Yet the PLA's primary concern concerning the 12 nm entry has been the increased likelihood of standoffs, as physical contact is sometimes inevitable in such a game as seen from the Cold War experience, i.e., between Soviet and NATO vessels.<sup>20</sup> In comparison with naval entries, overflight is less of a concern. From 5,000 meters above the tiny reefs, it is hard to ascertain whether or how much the fast flying plane is inside the 12 nm of the reefs. This is especially true as China has not announced its territorial base line and points in the Spratlys. Even if a plane is inside 12 nm of the reefs, it is on the international flight path. With no direct personnel engagement, the aero entry is mainly a diplomatic or media show. When a B-52 passed through Cuarteron Reef on December 10, 2015, Beijing raised the tone in its war of words by defining it as an act of military provocation, raising the severity in its depiction of USS *Lassen*'s entry into the Subi areas in October, which Beijing termed a political provocation.<sup>21</sup> While it was still a war of words, the challenge to the PLA is that when US warships move within 12 nm of Chinese-claimed SCS reefs, its surface combatants have to shadow them and their physical proximity can be close. Collision is a constant possibility. Additionally in the case of the USS *Lassen*, both US and PLA submarines were submerged nearby and at a high combat alert level.<sup>22</sup>

Such militarization of maritime tension mirrors an upward spiral of SCS sovereignty disputes now structured into a major power rivalry. Obama faced a civil–military relations challenge when the Pentagon requested more FONOPs in the SCS.<sup>23</sup> And so has Trump whose hard-line appointees in the White House and the Department of Defence have pressured him to act more toughly against China's SCS claims. These powerful figures are no longer satisfied with merely “innocent passages.” The first 12 nm entry by USS *Dewey* on May 26, 2017 changed the nature of the FONOPs. It stopped in the middle of the passage near Mischief Island to conduct a 1.5 hour maneuvering drill for “search of a missing sailor,” mounting not only a challenge to China's sovereignty claim but an invitation for standoffs if the PLA came to expel it. Although the “humanitarian need” watered down the level of challenge, this eventuated an unthinkable

scenario only a few years before, which may seriously impact on the overall bilateral relations. The conflicting signals reflect the dialectics of the three-level strategic pursuits in Sino-US maritime rivalry. The worsening bilateral ties affect how the US naval FONOPs are conducted. Consequently, more questions about the functions of FONOPs arise than there are answers in defining this Sino-US tension in the maritime domain.

First, in official US rhetoric the nature of the 12nm entry of China's SCS holdings is depicted as a challenge to China's excessive sovereignty claims through an innocent transit justified by international law.<sup>24</sup> In practice, when US naval vessels carried out FONOPs, their fire-control radar systems were off, the helicopters on board were stationary, and the gun/missiles were in a non-combat mode.<sup>25</sup> It is still uncertain whether the both sides have prior knowledge of the entry but it is likely that they have pre-entered acquiescence on how the US Navy acts and how the PLA responds. This is a key question but causes confusion, as both sides try to create as much ambiguity as possible so that they could interpret the event according to their respective preferences. The challenge to excessive sovereignty claims may mean that America's policy is still neutral on the claims but is against the excessive part of it. Some US policymakers and security analysts blamed such a depiction as serving more China's interests than those of US allies.<sup>26</sup> It is logical that the Pentagon under Trump is posited to move away from this interpretation. The future entries would not be combat-oriented but are not that "innocent" either.

Second, it is yet clear whether the 12nm entry is meant to be routine or symbolic. Frequency does matter as it embodies US judgment of the degree of China's challenge to its maritime dominance. For Beijing, it impacts on Chinese domestic politics, e.g., Xi's image among the population. The frequency has so far been symbolic, if evaluated by the Pentagon's original plan to conduct two entries per quarter.<sup>27</sup> A total of eight naval entries up to February 2018 is still too infrequent to shake the foundation of the overall bilateral relationship. Yet this number in 24 months can be compared interestingly with a total of 7 entries in the whole of Asia's maritime domain in 4 years between 2011 to 2015.<sup>28</sup>

The number of FONOPs in the US Pacific Command's (PACOM) annual plan approved by Trump in April 2017 is unknown but the position of Admiral Harris and his successor over this matter is well known. A shift from symbolic to sporadically routine is much on the cards. Strategically routine entries will be seen by Beijing as going beyond normal FONOPs. If the entry of May 2017 is indicative of a new pattern of FONOPs, namely, embedding military drills in the entry, it might trigger tough PLA countermeasures including the ramming of the stationary US warships. Grave damage to the overall bilateral relations – a scenario that Washington does not seem to be ready for – becomes imaginable.<sup>29</sup> It is interesting to observe whether the Pentagon would reverse Admiral Richardson's definition of the US-China relationship: one of extreme importance.<sup>30</sup>

Diplomatically, the option of symbolic entry seems to underscore the John Kerry/Yang Jiechi concord on China phasing out land reclamations alongside US restraints on the 12nm entry in May 2015, which may have also guided the

Ashton Carter/Fan Changlong negotiations in Washington DC 1 month later.<sup>31</sup> Under Trump the acquiescence may not hold any more, as indicated by the heightened frequency of entry while Sino–US relations is at a crossroads. For now, much depends on how US restraints are defined. Escalation of tensions seems inevitable if one side were to take a confrontational approach.<sup>32</sup> It also depends on Beijing's SCS policy: i.e., whether it will reclaim Scarborough Shoal or deploy offensive weapons systems on the reclaimed islands. To the relief of the region, Beijing has promised the Association of Southeast Asian Nations (ASEAN) that it would initiate no construction in the Spratlys islets that have no human inhabitation, obviously addressing the Philippine's concerns over Chinese designs on Scarborough Shoal.<sup>33</sup> Indirectly, this has removed one cause for the US to mount frequent 12nm entries, unless Trump has other strategic considerations.

Third, to Chinese analysts, the 12nm entry is also for encouraging other parties to follow suit so that the SCS dispute will be further internationalized. Heavier collective pressure will help not only to isolate China in SCS dispute management but also inhibit its assertive initiatives in a global context. PLA strategists particularly emphasize the geostrategic nature in US FONOPs.<sup>34</sup> The joint FONOPs can indeed serve as a leverage for constructing a new regional security architecture against China.<sup>35</sup>

Finally aggregating the above-points the 12 nm entry may further the militarization of the SCS dispute, escalating from an initial tactical show of force to a pattern of combat naval encounters, leading to some sort of standoffs. Admiral Harry Harris has elevated FONOPs into a “presence” operation with US warships spending extended hours in the proximity of islands claimed by China.<sup>36</sup> This would be a test on the capability of both sides to compartmentalize a crisis from their overall relations, even if they do indeed have the desire not to confront each other. Here the rules of engagement in their bilateral encounter agreements would be unlikely to work well: as tactical measures, they are unable to address a strategic challenge e.g., the US challenging China's SCS sovereignty claims. Interestingly, the frequent entries may present the PLA with a reason to strengthen its defense facilities on the reclaimed islands, ignoring US criticism of China militarizing the SCS dispute.<sup>37</sup>

Despite vocal condemnation, China has not dramatized the matter of 12nm entries for the sake of preserving a functional relationship with the US. Similarly, the Pentagon has played down the military significance of such passages while continuing FONs. Admiral Yin Zhuo pointed out that each entry by a lone warship showed that the US has no combat intent.<sup>38</sup> So far, the six Sino–US encounter agreements have helped curb any aggressiveness on the part of their first line officers. When *USS Chancellorsville* conducted FONOPs in the Spratly area in March 2016, the PLA frigate *Yueyang* followed her politely for 2 days, strictly observing the encounter agreement by keeping a distance of 10km and constant radio communication with the US captain. This distance is large enough to avoid a collision but is close enough to maintain eye contact with its counterpart. Rather than expressing indignation, the PLA radio check started from

“talking about weather (have a great day at sea)” to signal a non-combat gesture. While showing this rational softness, a helicopter took off to monitor the motions of *USS Chancellorsville* at a relatively close range: a way to show hardness. Both sides observed great professionalism all the time.<sup>39</sup>

In summary each side has expediently pretended not to construe the nature of the 12 nm entry in ways that would hurt the prospects of Sino–US cooperation in the global setting. If their mutual intent to contain the tension below the level of confrontation works, an equilibrium may emerge, similar to Sino–Japanese interaction inside 12 nm of the Senkakus/Diaoyus (S/D). Such an evolution will hurt Beijing’s position in SCS dispute but not to the point of leading to a showdown. Xi warned the PLA that “this SCS tension will be protracted and it should exercise strategic patience while constantly guarding against intrusions.”<sup>40</sup> The PLA reaction has been firm enough to support Xi’s leadership but not to the point where the overall Sino–US relations would be irreversibly damaged.<sup>41</sup> Therefore the distinction of the two types of entry – *routine* or *symbolic* – dictates great subtleties in PLA responses. If the entries remain symbolically routine (or routinely symbolic), it gives the PLA room to maximize restraint. Logically, the Pentagon may reciprocate by conducting a minimum number of entries in the foreseeable future, to strike a balance between the three strategic endeavors mentioned earlier. The Spratly rocks do not present a strong enough case to sabotage the overall relations although the danger of temporary loss of control is there.

### **Sino–US quarrel over militarization**

Militarization has been a buzzword in Sino–US maritime quarrel. According to Professor Austin definitions, the word “militarize” range from giving an activity or organization a military character (with even a small number of uniformed personnel or equipment) to a “process by which a society organizes itself for military conflict and violence.”<sup>42</sup> The latter definition may be more applicable to a nation that goes for a wholesale militarization as a national goal for the purpose of aggression. It is too broad a situation where claimant states deal with the military aspects of territorial disputes. In this case militarization is a natural result of territorial disputes requiring deployment of soldiers in the occupied islands and building defensive facilities to protect their holdings. This kind of militarization is normal as long as no claimant commits to irredentism by ejecting others from their islands through force. The SCS has been calm in the bulk of the times.<sup>43</sup>

Today the real SCS challenge is located in the Spratly waters where disputants battle over the EEZ rights, extraction of resources, and law enforcement. Furthermore, these waters are where major power intervention is, mostly, with a show of military power. Hence, for PLA analysts, the facilities installed on the artificial islands do not trigger war by themselves. However direct naval contacts risk lifting militarization to the level of *combatization* in the action/reaction dynamics. For instance, US FONOPs have been a stimulant or an excuse for the PLA to enhance military deployment in the reclaimed reefs. The 12 nm entry propels it to install more surveillance platforms.<sup>44</sup>



In the SCS context, the term of militarization mainly refers to China's construction of defense facilities in its reclaimed Spratly reefs. The fact is that as the SCS disputes are now a part of geostrategic rivalry, militarization is a useful mechanism for subduing the opponents, especially from a position of strength. For instance, the mainstream view of the Pentagon seems to be that any means other military will be ineffective in dealing with the China challenge. This can be testified by a congressional report:

First, we are strengthening our military capacity to ensure the US can successfully deter conflict and coercion and respond decisively when needed. Second, we are working together with our allies and partners from Northeast Asia to the Indian Ocean to build their maritime capacity. Third, we are leveraging military diplomacy to build greater transparency, reduce the risk of miscalculation or conflict, and promote shared maritime rules of the road. Finally, we are working to strengthen regional security institutions and encourage the development of an open and effective regional security architecture.<sup>45</sup>

Most of these efforts are embedded in military intentions and increased military capabilities, a clear indication of an active militarization of the disputes.

A crucial dividing line between proactive militarization and passive fortification for island defense is marked by the category of the weapons systems deployed there. Offensive weapons point to the former. Therefore, for the Spratlys dispute to remain stable and predictable, all claimant states should commit themselves not to field offensive weapons in the region, with Beijing bearing the heaviest onus. When the islets are physically small this is not a grave concern. Even when the reclaimed islands open new space for such weapons to be inducted, they are still very small in size and capability. China must maintain a low level of militarization since it now controls several large islands in the Spratlys after land reclamation, including three long airstrips. A Sino–US acquiescence not to deploy combat aircraft there has been observed, a positive step toward avoiding any escalation of the dispute.<sup>46</sup> For its own self-interests, the PLA will not undertake such a deployment because the “Three-Highs”: (1) high temperature, (2) high humidity, and (3) high salt – would substantially reduce the longevity of the aircraft.<sup>47</sup> In terms of weapon deployment there is a gray area in defining what defensive weapons are. A typical example is China's anti-ship and anti-air missiles, reportedly deployed in the Spratlys in May 2018. The HQ-9 Missile is generally regarded as a defensive weapons system, as it deals with combat aircraft not defense facilities in the islands. In contrast YJ-12 anti-ship missile is normally regarded more as a piece of offensive weaponry. Yet such missiles on board a warship differ to those deployed on a tiny island. In the latter's case it is more for defensive purposes, as it cannot be mobile and has limited range for strike.<sup>48</sup> The PLA's missile deployment is not officially confirmed, nor it is unknown if the deployment is temporary or long term. If it is true this would be a new sign of militarization.



China's SCS reclamation has been a hot topic of militarization.<sup>49</sup> In comparison with the earlier reclamation by other claimants, China's was much bigger in scale and has substantially changed the shape of the islets (tactical status quo). On the other hand, what China did has not changed the map of occupation by all claimants (strategic status quo). The reclamation will not strengthen China's sovereignty claims,<sup>50</sup> as Beijing has not defined the territorial base lines and points in the Spratlys, the only claimant as such. The challenge to China is that had it not started land reclamation in 2014, it would have lost all opportunities to do it, given the short window of Xi's state visit to America in September 2015,<sup>51</sup> the anticipated regime change in Taipei in 2016, the accelerated Code of Conduct negotiations and the ruling on Philippines' law suit. It would have remained the only country without an airstrip in the Spratlys, an unacceptable phenomenon for the PLA. The questions are why it carried out reclamation on such a scale, why it built three airstrips at the same time, and were these actions cost-effective? The PLA may have tried to avoid the phenomenon of a "warm spoiled frog" in reclamation. It is still problematic for the PLA to carry out reclamation in such a manner, given the lasting international backlash.

There is no denial that in peacetime China's new airstrips have enhanced the PLA's capabilities for SCS operations. For instance, the enhanced islands can be used as a mid-way forward base for the PLA's expeditionary task forces to the Indian Ocean.<sup>52</sup> The three airstrips in the Spratlys can provide emergency logistical, meteorological, and other help to PLA Navy (PLAN) battle groups passing by – e.g., emergency landing strips for carrier aircraft. It extends China's southern air defense depth by 1,000 km. The reclamation better enables forward signal imagery intelligence, reconnaissance, and surveillance of crucial sealanes of communication (SLOCs) in the SCS. Finally the PLA's reinforced SCS presence can help counter activities by other claimants and from extra-regional powers, e.g., through deploying major surface combatants in the newly built ports. Clearly the PLA's burden of timely supply to the Spratlys has been reduced by shortening the long geographic distance from its nearest Hainan land base. Airstrips are especially useful for this purpose as the supplies to the Spratlys are disrupted frequently in the Typhoon season.

However, the island defense facilities are of only limited military value in times of major military conflicts. The islands are normally defenseless in precision bombardment. The airstrips' foundation is built upon a soft coral pan that provides unreliable support over time. This means that even if the airstrips are solid enough to handle heavy aircraft (e.g., carrier aircraft in an emergency), they cannot withstand overuse through frequent landing and takeoff without causing serious damage to the runways. Logically, the PLA statements claim that the airstrips are mainly for logical and equipment supplies.<sup>53</sup> In peacetime, it is not likely that combat aircraft will be deployed in the Spratlys. In times of war, the airstrips and aircraft are highly vulnerable to attacks. This casts doubt about the real value of such a peacetime construction.

Given the considerations above, militarization is an invitation to confrontation by itself, which is most likely to be caused by worsening political relations

between claimants. The key concern here is the possibility of any country raising militarization into a combat gear. *Combatization* is the privilege of a stronger power employing brinkmanship as a policy option based on military superiority to subdue adversaries, although this does not represent an attempt to initiate a war. Conceptually, SCS *combatization* turns a territorial issue into a military security threat in a geostrategic context. Military confrontation is not likely to happen among the claimants, but between major powers, most likely between the US and China, as a result of an accidental fire during FONs. Both sides are formulating combat plans to deal with a worst-case scenario. Differing military actions to secure islands, the Sino–US battling is for the control of air and oceanic space around the disputed areas. Inherent risk in such a logic is that a stronger power would use enhanced military pressure for broader geostrategic objectives. Three factors are associated with the employment of such a strategy. First, *combatization* from a position of superiority is a practical means to forcing the adversary to yield without a fight. Second, the strategy of isolating China through coalition-building could not work without enough military pressure on China.<sup>54</sup> Generally this is about the “incentives to initiate a show of force to gain bargaining leverage in a Sino–American crisis.” Third, dominance over the escalation of a crisis is available to the stronger power to generate controllable tension and events, such as 12 nm entry, to which the opponent has little means to respond.<sup>55</sup>

### **The nature of the EEZ surveillance activities**

The enduring Sino–US seesaw battle in the maritime domains is first of all rooted in their fundamentally different understanding of aero and naval EEZ operations. The two arguing points of US FONOPs: providing the public goods for global ocean users and US national security, are hard to dispute.<sup>56</sup> China has benefited at least from the first. Controversies arise when the geostrategic and military elements come into the equation. In that regard, there is a distinction between normal US FONOPs challenging a country’s excessive claims quietly and US FONOPs against China, conducted in a high political profile. PLA transparency problems are blamed as the logic of US surveillance at China’s doorstep while PLA analysts criticize US “gunboat diplomacy” as the source of friction.<sup>57</sup> Possible US involvement in a war between China and US allies is the primary risk factor: US victory depends on knowledge of exact PLA capabilities and key PLA weapons systems. To a large extent, this knowledge can ideally be obtained through forward surveillance, the reason for US close-in spy activities along the Chinese coast. Likewise, this is the same reason why the PLA has to guard its strategic secrecy against a potential US war of intervention and underscores Sino–US contention over the FONOPs in the eastern part of the SCS.

### ***Electronic warfare: the primary PLA concern***

The US EEZ operations are premised on a number of justifications. Legally, they take place in international air and maritime space. Culturally, the surveillance of

nations – friends or foes – is an integral part of the US military tradition of maintaining superiority over adversaries by clarifying and understanding their capabilities and intentions. In the US community of PLA research, these activities are viewed as non-threatening.<sup>58</sup> Chinese strategists on the other hand are not convinced. First, FONOPs are now more about geostrategic politics and turns a sovereignty dispute into a military challenge.<sup>59</sup> Second, PLA intercepts are not about preventing US aero-maritime passages through Chinese EEZ. Innocent overflight or navigation near China's territorial space and waters has not been a problem but it is a different matter if the activities entail significant doses of war motivation and behavior, e.g., gathering defense intelligence on the PLA. Third, when the FON concept disguises intentions of leveraging military superiority for strategic gains, e.g., obtaining other parties' top military secrets, its legality is just technicality-based.<sup>60</sup>

China's strategic culture rooted in a century of humiliation restricts its leaders' options in handling sovereignty disputes.<sup>61</sup> And critical distance is an important international relations (IR) and cultural concept relevant to the PLA's intercepting behavior. When this is coupled with military intensions, the level of threat felt becomes higher, with the reaction fiercer, as compared with encounters that occur in a faraway place. Yet it is hard to ascertain how much these factors influence policymaking regarding PLA intercepts. In reality, a country's EEZ rights are only vaguely linked to its sovereign concerns. China does not lose an inch of land because of US surveillance in Chinese EEZ. The Chinese would not know about individual cases of US surveillance if the government does not disclose them and Beijing does not normally reveal the information, except for some generic descriptions of US intrusion. Therefore the sovereignty challenge posed by the surveillance is intangible unless it occurs within Chinese territorial waters. It can be made big or small according to political needs, as testified by Beijing's silence on "1,200" such cases in 2015.<sup>62</sup> Beijing was loud in protest but highly cautious in reaction. Put another way, while the sovereignty/nationalism nexus is real, it is not something that dominates PLA countermeasures, which are subject to Xi's desire to strike a balance between a non-confrontational US policy and meeting the practical needs of intercepts. Obviously his choice leans toward the former.<sup>63</sup>

The PLA intercepts of US FONOPs in China's EEZ are better understood from its depiction of such operations as actual warfare without smoke.<sup>64</sup> This construes Beijing's identification of the surveillance behavior as violating its "core interest," especially near the Yalong nuclear submarine base and Wenchang strategic space launching site. Dai Bingguo relayed this PLA concern during a Sino-US senior officials' dialogue in March 2010. Interestingly, the connection between core interests (PLA bases in the undisputed Hainan/Guangdong part of the SCS) and the disputed part of the Spratlys was misconstrued as Beijing's incorporation of the entire SCS as its core interests by Western media.<sup>65</sup> The outcome was clear: the confusion certainly aroused ASEAN and heightened regional alert on China's SCS policy. Protection of its core interests in Beijing's vocabulary may dictate employment of force.<sup>66</sup> And Beijing cannot

deny that its SCS interests are not core interests, which would cause strong domestic backlash. In the Wu-Richardson talk, Wu categorically named the Spratlys as China's core interests, an act pertaining to the evolution of the bilateral relations in the context of the rising intensity of the ESCS disputes.

A closer look at how previous Sino-US military incidents occurred would help establish a pattern of PLA intercepts, especially where they had become aggressive and where the restraints were exercised. In April 2001, the EP-3 approached the clashing scene at a time the PLAN South Sea Fleet was conducting scaled war drills. The communication signals were intensively exchanged between participating platforms, a good opportunity for the EP-3 to pick up their electromagnetic and frequency spectrums. If this information were gathered, analyzed, and computerized, it would put Chinese warships and aircraft in greater jeopardy in times of a Sino-US military conflict. This underlined Wang Wei's aggressive tactics to edge the EP-3 out of the scene then. Each time an RC-135 comes near Chinese borders, the PLA would become very nervous as the aircraft easily "tickles" PLA radar stations and detects how Chinese submarines enter and leave their bases.<sup>67</sup> The *USS Impeccable* incident happened under a similar situation. She arrived just in time when a PLAN nuclear submarine approached the Yalong Base, during which process volumes of communications were generated between her, surface combatants and base commands.<sup>68</sup> The *USS Impeccable*'s sophisticated sonar systems can handily collect submarines' crucial information, such as radio frequencies, tail waves, water temperature differentials and magnetic signatures of every submarine. According to PLA analysts, it is enormously easier for US spy ships to get this data set in the pathway to the naval base than in deep oceans. They drop sonar pins with passive and extremely low frequency on the path which make PLA submarines vulnerable.<sup>69</sup> Given SSBN 094s' importance to China's nuclear deterrence as a weaker power vis-à-vis the US, their safety is of core national interest and warrants a level of tough intercepts, the reason why China's fishery administration ships had used the most primitive measures of disruption against the *Impeccable*'s sonar systems.<sup>70</sup>

The question is what alternatives the PLA would have in dealing with the situation. The range of options is actually narrow: either allow its top military secrets to be taken or react assertively at a risk of engendering a crisis in Sino-US relations. Tracing the manner of PLA intercepts, a pattern has emerged. It is selective, differentiating between hard and soft intercepts according to the situation of whether there is a major PLA war drill when US surveillance patrols occur. It is relatively relaxed when PLA units in exercises are well prepared and US aircraft are distant. And it is restrained when there is a major Sino-US diplomatic event in view, such as a forthcoming summit meeting. Then the PLA's intercepting units would receive strict orders not to be aggressive. The soft intercepts have been the main mode of action and explain why the number of incidents has not risen in proportion with that of US surveillance activities. Hard intercepts are effected only when absolutely necessary.

If the US FONOPs are meant to oppose excessive sovereignty claims by some littoral states, it would not trigger a naval confrontation. However, in Chinese

EEZ it is mainly military surveillance. US scholars trace the conceptual origins of freedom of navigation from the IR theory of realism that highlights the desire for national security.<sup>71</sup> This renders US EEZ surveillance to be military in nature, inherently with a combat intent.<sup>72</sup> The PLA's consideration of such surveillance as electronic warfare has determined its intercepting behavior in the past 20 years. This war without smoke will determine the survival of key PLA weapons systems in times of war. Such a depiction dampens PLA confidence in the CBM mechanisms of accident-aversion that only tactically regulates the interaction of both sides. These mechanisms bind the PLA's hands when responding to US FONOPs. Respect for safe rules of engagement requires the PLA to place the overall Sino-US relations above its vital interests and leaves it in a "damned-if-you-do, damned-if-you-don't" situation.<sup>73</sup> The PLA's accumulated frustration was vividly expressed by the maneuvering of a J-11B pilot against the US P8-A within a range of 6 meters in August 2014. The barrel roll conducted by the pilot means "to get out" in Chinese – a sign of worry as the "cat-and-mouse game" can only heats things up further.

### **Sino-US battle over ADIZ**

China's air defense identification zone (ADIZ) announcement was criticized as a revisionist attempt against the regional security order.<sup>74</sup> From Beijing's perspective, drawing an ADIZ is not only the right of a sovereign state violating no international law but also addresses a US-centric Cold War ADIZ legacy. It follows the practice of 20-plus countries in this regard, as all ADIZ impositions have been unilateral.<sup>75</sup> There are two types of ADIZ in the world: either *relatively restrictive* or *highly restrictive* to foreign aircraft entering the ADIZ. China's fell into the second category. Its ADIZ is larger than that of most regional countries and requires all aircraft to report before flying through the ADIZ. This design was based on a worst-case scenario: since sometimes it is impossible to know if a plane – military or civilian – intends to enter Chinese airspace beforehand, extra caution is necessary. However, applying maximized airspace security to civilian aircraft is commonly problematic, although in practice, the PLA exercises great caution in enforcing ADIZ on civilian aircraft. So far only one incident has taken place in that respect.<sup>76</sup>

The PLA's original ADIZ announcement mentioned that a SCS ADIZ would be drawn in due course. However, the plan was aborted facing unusual responses from Washington and regional states to the East China Sea (ECS) ADIZ. Will it be eventually set? The answer seems to be definite covering the Hainan/Guangdong areas under no territorial dispute but unlikely in the disputed areas of the Spratlys.<sup>77</sup> The reason is multiple. Legally, China has not promulgated territorial base line and base points in the Spratlys. Without these fundamental requisites, there is no way an ADIZ can be drawn. Functionally, there is no need for the PLA to have an ADIZ in the Spratlys, as the military facilities there are of no strategic value to warrant early warning time for air defense. Finally, the ADIZ was set up not about sovereignty but out of practical concerns over close-in spy

activities when the idea was first mooted in the PLA in early 1990s,<sup>78</sup> although it can nonetheless be used as a sovereignty statement, as is the case of the PLA's ECS ADIZ, which incorporates the S/D areas.

### ***Break US-centric ADIZ order***

The ADIZ was a PLA initiative to fill a loophole in air defense along its sensitive east coast where the bulk of China's gross domestic product (GDP) and numerous military assets are located. Xi Jinping told Joe Biden that the ADIZ announcement was the result of a lengthy serious study, not an impromptu decision.<sup>79</sup> According to Yin Zhuo, a member of the Navy's ADIZ feasibility study team in the early 1990s, America's protracted reconnaissance activities from Qingdao in the north to Hainan Island in the south posed serious threats to Chinese national security.<sup>80</sup> Modern combat aircraft has become stealthy and faster. Additionally, thousands of civil aviation flights transit the ECS to enter Chinese air space daily.<sup>81</sup> This situation obliges the PLA to monitor all aircraft within an extended distance in order to obtain greater depth in its air defense.<sup>82</sup>

The PLA's 20-year delay in ADIZ establishment is primarily due to a previous lack of the necessary capabilities to enforce ADIZ rules, i.e., no airborne early warning and control (AWAC) aircraft and few modern long-range radars available. If there had been no capability to enforce it, there was no point in declaring it in the first place. The EP-3 and the *Impeccable* incidents rekindled PLA interest in setting up an ADIZ as an alternative means to handle US surveillance activities close to the PLA's coastal bases. Allied war drills have become more frequent in sensitive areas in the ECS. To the PLA, the need to create an ADIZ has become more pressing. Former PLA Air Force (PLAAF) commander Xu Qiliang (now CMC vice chair) ordered the PLAAF Command Academy to conduct a study of setting up an ADIZ in 2009.<sup>83</sup> The renewed ADIZ effort was first of all based on detailed PLA capability assessments in favor of ADIZ establishment. For instance, by 2014, the PLAAF had a dozen AWACs in its 26th Division deployed in the East Theater Commandant facing the ECS.<sup>84</sup> Their surveillance range can reach Okinawa. One of the PLAAF's strategic early warning radar systems for missile defense is deployed in Huian, which is similar to Pave Paws in sophistication, and can monitor aero-activities as far as Guam. It is supported by tactical theater radars in east China, such as the phased array radar JY-27A and YLC-8B with limited capability in detecting stealth aircraft.<sup>85</sup> The PLAAF's combat aircraft can enforce ADIZ areas up to 600 km.<sup>86</sup> Additionally China has launched 25 remote sensing satellites by 2017, which can detect relatively small flying objects.<sup>87</sup> Together, they can scan the declared ADIZ region around the clock. The Japanese Self-Defence Forces (JSDF) confirmed that it was within Chinese capability to electronically monitor its flights around the S/D region.<sup>88</sup>



***ADIZ and US close-in surveillance***

China's ADIZ initiative can be roughly defined in both *narrow* and *broad* terms. The former is technical, expressed by its declared goal of maximizing early warning time for homeland air defense, which is a military measure of relatively low strategic importance.<sup>89</sup> According to Major General Meng Xiangqing of the PLA National Defense University, an ADIZ coverage of 500km from the Chinese coast would allow an extra 10-plus minutes for the PLA to prepare itself against a hostile air-intrusion, which is crucial in contemporary informatized high-tech warfare.<sup>90</sup> The latter conveys a revisionist attempt against the US-led ADIZ networks as part of the security order in Asia. Indeed, it is part of Beijing's long-term effort to build a conducive security order of its own.

Another key objective of the ADIZ is to counter US aerial activities near the PLA's coastal bases. The painful lesson of the EP-3 incident was that the PLA had no better way to deal with US surveillance than citing the EEZ concept as the basis for complaint.<sup>91</sup> As US insistence on freedom of overflight in open airspace is hard to rebuke legally, the PLA can do little except for scrambling airplanes to shadow US planes under its EEZ claims. A Chinese ADIZ is thus deemed to be a viable way to justify edging US planes away from militarily sensitive areas. It could provide a sub-legal means for PLA aircraft to engage their US counterparts according to US ADIZ practices.<sup>92</sup>

The PLA ADIZ push was thus derived more from a battlefield calculus than from a geostrategic assessment. Concerns over US response and occurrences of mid-air accidents underlined Hu Jintao's delaying tactics vis-à-vis the PLA's requests.<sup>93</sup> Xi's decision seems to indicate that either he placed the defense needs of an ADIZ above considerations of overall Sino-US relations, or that he believed the bilateral Sino-US relationship, following his successful Sunnylands meeting with Obama in May 2013, was firm enough to endure the US backlash. Although his calculus was not far off the mark, strategically, the ADIZ imposition may have consolidated a rising elite belief in the US that China is a revisionist power.<sup>94</sup> The consequences are far reaching. Tactically, the Chinese ADIZ runs a collision course with US aero-activities in Chinese EEZ and may open a new conflict zone in the regional maritime dispute.

On the other hand, the ADIZ is not about sovereignty claims, or is at least not a pronounced objective. The ECS is narrow. If one state draws an ADIZ, inevitably it overlaps that of others, and creates cases of potential standoff, especially when disputed islands are also located inside the ADIZ. Yet China's ADIZ is more about creating a mechanism of air defense depth than about restating sovereignty claims. When the PLAN started its ADIZ study in the 1990s and General Xu ordered to renew that study in 2009, the S/D dispute was not a pressing issue. Surely the S/D issue is relevant vis-à-vis Japan's coverage of the said area in its ADIZ. However, China's inclusion of it was more of an act of political and diplomatic correctness largely for domestic consumption. This can be further seen from the way the PLA has enforced the ADIZ, which has largely skipped the disputed islands.<sup>95</sup> One of Xi's directives for managing the S/D



dispute is not to send PLA planes into the area. Using the Coast Guard ships is a more proportional response to Japan's nationalization of the S/D.<sup>96</sup> Any PLA ADIZ enforcement over the islands can easily escalate the dispute to a military level that Beijing is not ready for.

### **Concluding remarks**

There is no easy way out for the “cat-and-mouse” game in regards to US intelligence operations in Chinese EEZ and PLA intercepts, given the zero-sum nature of the game. And US 12nm entry into China-held islands in the SCS will continue and will thus continue to trigger tough PLA responses. However a way out has to be found, given the high stakes involved. The core of the challenge is not the resolution of the duel but how to manage it for maintaining a proper balance between protecting the overall Sino–US relations, conducting FONs, as well as observing tactical encounter agreements in the high seas and in the open skies. From this perspective, the two militaries have done reasonably well, as evidenced by a tiny number of standoffs in the last 20 years, despite the rapid rise of their maritime and aero encounters. The PLA has emphasized its “strategic patience” in dealing with US FONOPs in general and with the 12nm entry in particular. Likewise, the US has dispatched only reconnaissance planes inside the Chinese EEZ for surveillance missions, without any combat aircraft as escorts. It is not accidental that an irreversible downfall has been prevented, despite the heated action/reaction dynamics involved. This has proved that in pursuing contradictory policy objectives of the three strategic pursuits, both Beijing and Washington have mutually struck a workable balance with the maintenance of the overall bilateral relations as their top concern.

On the other hand, prospects of mid-air collisions or naval ramming are inherent in this game. From the PLA's perspective, the US is generally the strategic aggressor in mounting its surveillance activities in Chinese EEZ and putting at stake the survival of key PLA weapons systems in times of war. This obliges the PLA to play the role of a tactical aggressor on the spot.<sup>97</sup> Some of the actions by overzealous PLA pilots, such as Wang Wei, are clearly dangerous but not necessarily unprofessional in carrying out the job of mid-air expulsions. Without being at a close range, PLA aero intercepts cannot be effective on two counts. Technically, the relatively unsophisticated electronic equipment on board PLA aircraft, i.e., the J-8s, drives Chinese pilots to move near their US counterparts to disrupt their collection of intelligence signals. More strategically, as far as PLA pilots are concerned, without being aggressive, the US may see no taboo in conducting EEZ surveillance. It is a foregone conclusion that as long as US EEZ operations continue, PLA intercepts will occasionally take a visibly provocative mode. Accidents are likely to happen, and both sides have been prepared for it both psychologically and operationally. Thence it is logical to infer that even if such an incident happens with loss of lives, in anticipation of it, both sides would be in a position to contain the worst out of it. This is possible as long as both

Beijing and Washington continue to place maintenance of their overall relationship above the other two strategic pursuits.

Yet it is better that such unwanted accidents can be avoided, or at least not happen within a close interval to cause an inevitable freefall in bilateral relations. Thus the technical responsibility lies in how the interceptors behave when doing their jobs. Factually speaking, the pattern of PLA intercepts is not much different to that of Russian and Japanese ones. This is why tactical CBMs are still valued as crisis prevention means. Six Sino-US encounter agreements have been signed to prevent the worst from happening.<sup>98</sup> They are not the ultimate way out but serve as useful traffic rules binding both militaries in way of good fences making good neighbors. The existing detailed action-specific rules of the game are mutually acceptable at a minimum level but have so far prevented Sino-US naval and aero encounters from triggering actual war actions. Nevertheless, it is legitimate for people to remain pessimistic. As Beijing and Washington have invested enormous efforts in crisis management, incidents would not easily lead to breakdown of bilateral ties – unless one of them no longer regards maintaining a broadly-based relationship worthy.

## Notes

- 1 Trump approved an annual plan by the Pacific Command (PACCOM) to conduct freedom of navigation operations (FONOPs) against Chinese claims in April 2017, meaning that FONOPs no longer need a case-by-case endorsement by the President. *Breitbart News Network*, July 21, 2017.
- 2 Admiral Harris called for “fight tonight”; and China’s former CMC vice chair Fan Changlong made an unusual inspection tour to the Spratlys right after the arbitration, ordering the soldiers to prepare for a real fight. “Fan Changlong’s Inspection Visit to the Southern War Zone,” *The PLA Daily*, July 20, 2016, p. 1.
- 3 A RAND report *War with China: Thinking through the Unthinkable* gives a detailed account on a US war against China, July 2016. In PLA calculations, the likelihood of a war among major powers has declined but the likelihood of crisis has risen due to worsening territorial disputes. See the PLA Academy of Military Science, *The Science of Military Strategy*, Beijing: The PLA Academy of Military Science Press, 2013, p. 99.
- 4 Robert Jackson and Georg Sorensen, *Introduction to International Relations: Theories and Approaches*, Cambridge: Oxford University Press, 2013; You Ji, “The PLA and Diplomacy: Unrevealing Myths about the Military Role in Foreign Policy-Making,” *The Journal of Contemporary China*, Vol. 23, No. 86, 2014, p. 255; Graham T. Allison, “Conceptual Models and the Cuban Missile Crisis,” *The American Political Science Review*, Vol. 63, No. 3, 1969, pp. 689–718.
- 5 “The U.S. and China Are Finally Having It Out,” *New York Times*, May 3, 2018. White House, *National Security Strategy of the United States of America*, December 2017.
- 6 Jae Ho Chung (ed.), *Assessing China’s Power*, New York: Palgrave Macmillan, 2015.
- 7 This has been an eye-catching theme in Trump’s twitters after he initiated tariff penalties against China in March 2018.
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## 4 US–China military relations

### Competition and cooperation in the Obama and Trump eras

*Phillip C. Saunders and Julia G. Bowie*

This chapter examines recent trends in Sino–US security relations, with a particular focus on military-to-military relations and China’s call for building a “new type of military-to-military relations” with the United States. The chapter is organized in three sections. The first reviews efforts by leaders on both sides to find a stable basis for political relations in a changing international environment, because the quality of bilateral political relations will determine what types of military-to-military activities are possible. This section concludes with an assessment of China’s goals of building a “new type of major power relations” (NTMPR) and a “new type of military-to-military relations” and the extent to which they are accepted by the United States. The second section reviews the elements of US–China military-to-military relations and assesses trends over the last decade. The data show a pattern of frequent disruptions from 2000 to 2010, followed by a significant increase in military-to-military interactions beginning in 2012, coinciding with China’s call for a “NTMPR” and a “new type of military-to-military relations.” The analysis argues that these increased contacts do not mark a fundamental change in military relations. The third section considers factors on each side that will affect the future development of military-to-military relations. It notes significant obstacles on both the US and Chinese side that are likely to limit the degree of mutual trust and constrain the future development of military-to-military relations.

#### **Bilateral political relations and military-to-military relations**

In both the United States and China, military-to-military relations are subordinate to broader political relationships between countries. The Chinese military, the People’s Liberation Army (PLA), is a party–army and responsive to the orders of the senior Chinese Communist Party’s (CCP) civilian leader (in his capacity as chairman of the party’s Central Military Commission). The US military receives orders from the President, in his capacity as commander-in-chief, and is also subject to budgetary and policy guidance from Congress. Both militaries formulate proposals for military-to-military relations with specific countries and enjoy a degree of autonomy in implementing specific military-to-military interactions. However, in both cases, the extent and nature of military-to-military contacts are shaped by the

overall bilateral political relationship and civilian policy guidance. In the case of the US–China military-to-military relationship, analysts have noted that ups and downs in bilateral political relations have produced an on-again, off-again quality to military–military contacts that has inhibited building a deeper relationship or generating much strategic trust or sustained cooperation.<sup>1</sup>

Since Nixon's opening to China in 1971, both US and Chinese civilian leaders have grappled for a stable strategic basis for bilateral relations and sought to use relations with the other country to pursue their own national goals. The strategic basis has changed over time as the international environment has been transformed, national policy goals have shifted, and the balance of relative power between the United States and China has changed. At times, each country's relationship with the other has become a contentious domestic political issue, complicating efforts to build a stable and productive bilateral relationship. As economic, cultural, educational, and people-to-people ties have deepened, managing the US–China relationship has become more complicated. Leaders in both countries have periodically sought to build a more durable strategic basis for US–China partnership, but to date these efforts have been frustrated even as trans-Pacific interactions have increased dramatically.

The initial US–China strategic rapprochement was based on shared fears about growing Soviet power and potential Soviet hegemony. This provided a limited but sufficient basis for strategic cooperation in the diplomatic, military, and intelligence spheres. China's principal contribution was to tie down a large portion of Soviet military forces in the Russian Far East, keeping them away from the main front in Europe. The United States and China worked together to share strategic assessments and to frustrate Moscow's efforts to expand Soviet influence and control. Both sides also engaged in limited military cooperation, including US sales of military helicopters and technical assistance in modernizing Chinese Air Force fighters. Intelligence cooperation included monitoring of Soviet intercontinental ballistic missile (ICBM) developments and provision of Chinese weapons to mujahedin fighters in Afghanistan.<sup>2</sup>

During this period, military-to-military relations were generally cooperative and focused on how the two militaries could work together to serve the common objective of resisting Soviet hegemony. Efforts to build economic, cultural, and people-to-people ties were viewed as supporting the strategic relationship. This important but limited strategic relationship allowed the two countries to work around profound differences in culture, political systems, values, and different levels of development. The perceived strategic value of the relationship allowed US and Chinese leaders to compromise on the difficult issue of Taiwan's status and the US desire to maintain unofficial relations with the government in Taiwan.<sup>3</sup>

The end of the Cold War and the collapse of the Soviet military threat, coupled with the political impact of Deng Xiaoping's 1989 decision to use the PLA to violently suppress peaceful Tiananmen protestors, destroyed the old strategic basis for US–China relations. It also produced congressional sanctions banning US arms sales to China and placing limits on military-to-military

relations with the PLA. The George H.W. Bush Administration regarded China as having continuing strategic value in its own right and with respect to a possible resurgence of the Soviet threat, and also believed that the United States could exert positive influence on China's future development. While regarding the United States with suspicion and fearing Western efforts to Westernize (*xihua*) and split up (*fenhua*) China, Chinese leaders regarded economic ties with the United States as important for China's economic development. During this period, military-to-military ties were curtailed due to congressional pressure over Chinese human rights abuses and proliferation and the perception of many US policymakers that China had limited strategic importance.

China's return to rapid economic growth in the early 1990s convinced American elites, including US businesses and senior Clinton Administration policymakers, that China was an important "emerging market" and would be an important player in a globalizing world economy. At the same time, the 1995–1996 Taiwan Strait crisis revealed that ignoring Chinese strategic interests and failing to maintain robust political and military dialogue had the potential to lead to an unwanted crisis or military conflict. These concerns prompted Clinton Administration efforts to increase military contacts with the PLA and eventually to articulate the goal of building a constructive strategic partnership with China. For their part, Chinese leaders sought to stabilize relations with Washington to maintain access to US and Western markets and investment and to limit potential US efforts to contain China's economic growth or subvert its political system.<sup>4</sup>

Efforts to build a US–China strategic partnership produced an upturn in military-to-military contacts, including policy dialogues, ship visits, and reciprocal high-level visits by senior military leaders and civilian defense officials. While both US and Chinese leaders articulated the goal of working toward a constructive strategic partnership at summits in Beijing in 1997 and Washington in 1998, domestic politics intruded on the US side. Accusations that the Clinton Administration had allowed illegal transfers of space and missile technologies to China in exchange for campaign contributions produced a political scandal that damaged bilateral relations and led the Clinton Administration to pull back from the goal of a partnership with China. Military-to-military relations became part of complaints about the Clinton Administration's approach to China, with critics charging that the administration was giving China too much exposure to US military technology and operational practices and calling for restrictions on US–China military contacts. Although the allegations of *quid pro quos* were unfounded, complaints about the administration's approach to China were a background factor in the Republican attempt to impeach President Clinton. They also prompted the Republican-controlled Congress to pass legislation limiting US–China military contacts in 12 areas.<sup>5</sup> The accidental US bombing of the Chinese embassy in Belgrade in April 1999 infuriated Chinese leaders, who regarded it as deliberate, and led to a suspension of political dialogue and military-to-military contacts in areas of US concern as a means of signaling Chinese anger.

The George W. Bush Administration came into office with a much more skeptical attitude toward China, promising to treat it as a strategic competitor rather than a strategic partner.<sup>6</sup> This attitude was reinforced by the April 1, 2001 accidental collision between a US EP-3 reconnaissance plane and a Chinese navy fighter, with the damaged US plane landing on Hainan Island in China. The PLA's claim that the United States pilot was responsible for the collision and the Chinese government's decision to hold the US aircrew for 11 days damaged the bilateral relationship and led the US government to suspend most military-to-military contacts. For several years after the EP-3 incident, Chinese defense attaches were not allowed to enter the Pentagon. However, the 9/11 terrorist attacks by Al Qaeda reordered US security priorities and eventually resulted in increased US efforts to engage China on strategic and military issues. This produced a gradual exploration of areas of potential cooperation, including military-to-military contacts. For their part, Chinese leaders, alarmed at the potential for Taiwan President Chen Shui-bian to move toward Taiwan independence, sought to stabilize US–China relations and enlist Washington's support in restraining Chen from taking provocative actions.

Although Bush Administration officials were wary of a partnership with China, they eventually acknowledged its growing economic and strategic importance by proposing a vision of China as a “responsible stakeholder” that both benefits from and plays an important role in maintaining the current international system. This concept, elaborated in a 2005 speech by then-Deputy Secretary of State Robert Zoellick, recognized China's increasing impact on the international system and sought to obtain Chinese support in sustaining the global institutions and norms that have helped enable its remarkable economic success.<sup>7</sup> It tried to expand the scope of US and Chinese common interests and place potential conflicts of interests within a larger framework of cooperation.<sup>8</sup> Chinese officials and scholars welcomed acknowledgment of China's strategic importance but were suspicious that the United States wanted to impose binding commitments that might limit China's economic development and that Washington hoped to enlist Beijing in shoring up US hegemony. Nevertheless, the “responsible stakeholder” concept served as a basis for discussing increased bilateral cooperation and provided a framework for new high-level dialogue mechanisms, including the Senior Dialogue initiated in 2005 and the Strategic Economic Dialogue that began in 2006.

During this period, Chinese civilian and military leaders viewed military-to-military ties as something that the United States valued more than China, and therefore as a potential source of leverage and symbolic means of showing China's dissatisfaction with US policy. Beijing regularly suspended or canceled planned military visits and activities in response to US arms sales to Taiwan or other activities that displeased China. This produced a pattern of on-again, off-again military contacts that remained at a relatively shallow level.

Obama Administration officials devoted significant early efforts to broadening and deepening US–China relations to better address regional and global challenges, citing the goal of building a new era of cooperation with emerging Asian

powers, including China and India.<sup>9</sup> Although the political need to rebrand policy precluded the use of the Bush Administration's "responsible stakeholder" language, the administration's view of China as a rising power with expanding global interests that was succeeding within the existing international system was very similar. Administration officials sought to engage China in cooperation on regional and global issues, including efforts to deal with North Korean and Iranian nuclear ambitions, address climate change, and mitigate the effects of the global financial crisis. Their expressed goal was a "positive, cooperative, and comprehensive relationship" with China that allowed the two countries to work together on an expanded set of common interests. One of the instruments was the bilateral US-China Strategic and Economic Dialogue (S&ED) designed to address a wider range of issues, improve US policy coordination, and bring the right actors (including the PLA) to the table. Obama Administration officials stressed the need for continuity in military-to-military relations to increase cooperation, manage differences, and reduce risk. As a 2010 Pentagon report stated, "Sustainable and reliable US-China military-to-military ties are an important component of the overall bilateral US-China relationship and are necessary for the relationship to be comprehensive."<sup>10</sup>

Obama Administration efforts to build a deeper partnership with China produced relatively meager results. Despite formal engagements through the S&ED, reciprocal summit visits, and periodic meetings on the margins of multilateral forums, Chinese leaders remained suspicious and reluctant to expand cooperation with Washington or take on more international responsibilities. Moreover, in the context of the unfolding financial crisis that damaged the US (and then the global) economy, Chinese leaders misinterpreted Obama Administration efforts to increase cooperation as a sign of US weakness and an opportunity to press Washington for concessions. The net result was intensified bilateral engagement, including in military-to-military relations, but engagement characterized more by process than tangible results. The period from 2009 to 2010 also saw a more assertive Chinese posture on a wide range of bilateral, regional, and global issues, including on maritime and sovereignty claims in the South China Sea and East China Sea and in actions to interfere with US military ships and aircraft conducting lawful routine operations within China's exclusive economic zone. These Chinese actions stoked regional concerns that an aggressive China might destabilize Asia and calls for the United States to demonstrate its commitment to the region.

This political context – heightened concerns about Chinese behavior and regional demands for a stepped up US security role – formed part of the political rationale for the US "pivot" or "rebalance to the Asia-Pacific" announced in November 2011, although President Obama's intention to increase attention and resources devoted to Asia dated back to the beginning of his first term in office.<sup>11</sup> US officials stressed that the new strategy did not mean an abandonment of efforts to cooperate with China or to build a more stable Sino-US relationship and continued efforts to engage top Chinese leaders and other important Chinese actors, including the PLA. The broad US strategy of seeking to integrate China

more fully within the current global order, while discouraging any efforts to reshape that order by the use of force, remained in place.

The official Chinese reaction was to express concern and skepticism about the stated US rationale for the rebalance to Asia, lament the “lack of strategic trust” between Washington and Beijing, urge greater respect for Chinese “core interests,” stress the negative consequences of the rebalance for Asian security (especially its purported role in emboldening US allies and partners to challenge Chinese maritime territorial claims) and redouble efforts to stabilize Sino–US relations.<sup>12</sup> Despite significant concerns about the impact of the US rebalance on Chinese interests, the most prominent element of China’s response was increased efforts to build a stable relationship with Washington. In its Asia policy, Chinese policymakers talk about the need to maintain the proper balance between the competing goals of maintaining stability (*weiwen*) and defending sovereignty (*weiquan*). Maintaining a stable regional security environment requires efforts to engage the United States and to reassure China’s neighbors, while efforts to strengthen effective control over disputed maritime territories necessarily aggravates relations with other claimants.<sup>13</sup> Under Xi Jinping there has been more emphasis on pursuing Chinese territorial claims and on efforts to gradually diminish the US regional role and less concern about the negative impact on relations with China’s neighbors. In recent years, this effort has included more frequent air and naval patrols in waters that China claims and the construction of airfields and ports on Chinese-occupied land features in the South China Sea to support deployments of Chinese military forces.

With respect to the United States, China sought to stabilize the bilateral relationship by calling for the establishment of a “NTMPR” (新型大国关系, *xinxing daguo guanxi*) between the United States and China. Although this concept has antecedents dating back to then-State Councilor Dai Bingguo’s remarks at the first S&ED in 2009,<sup>14</sup> it was not put forward as a goal for the US–China relationship until 2012.<sup>15</sup> China’s definition of the NTMPR evolved to include three elements: “no conflict or confrontation, mutual respect (for core interests), and win-win cooperation.” For China, this formulation encompassed several desired goals: ensuring that China could continue economic development without the United States taking action to derail its rise, seeking US acceptance of Chinese core interests of sovereignty and territorial integrity (including Chinese claims to Taiwan and to disputed territory in the South and East China Seas), and cooperation on areas of common interest.

Obama Administration officials accepted some aspects of the Chinese concept, including the benefits of enhancing cooperation on areas of common interest and the idea that China could continue its peaceful economic development without war between a dominant United States and a rising China (sometimes articulated in terms of the ability of the United States and China to avoid the “Thucydides Trap.”)<sup>16</sup> But they resisted accepting “mutual respect for core interests” as part of the definition of a new US–China strategic relationship, rightly fearing that this implied an open-ended commitment to respect whatever interests Chinese leaders decided were vital.<sup>17</sup> Instead, US officials sought to



explore how a “new type of major power relationship” might be used to increase bilateral cooperation. However, US allies became alarmed that the United States was accepting a Chinese conceptualization of the relationship (and Chinese officials privately conveyed as much, warning US allies that Washington would eventually leave the region and be unable to protect their interests).<sup>18</sup> As a result, US officials eventually dropped the term from US characterizations of US–China bilateral relations.<sup>19</sup>

The official endorsement of the concept of a “NTMPR” by top Chinese leaders prompted a host of writings by Chinese scholars and think tank analysts who sought to provide a theoretical basis for the concept and define what it might mean in operational policy terms.<sup>20</sup> Seeking to find a role for the military in this leadership-endorsed concept, Chinese military officers and scholars began talking about a “new type of military-to-military relations” in 2012, and the concept was officially tabled by Xi Jinping at the Sunnylands summit in early 2013.<sup>21</sup>

It is notable that the proposal to develop a “NTMPR” with the United States was a Chinese initiative at a time when Chinese leaders worried that the US rebalance to Asia might signal a more confrontational US policy toward China. Chinese concerns about a possible US policy shift reflected worries about how Washington might respond to more assertive Chinese policies in Asia (especially on maritime territorial disputes) and a sense on both sides of increasing US–China strategic competition, both for influence in Asia and in the space, cyber, and nuclear domains.<sup>22</sup>

Despite heated campaign rhetoric, the Trump Administration’s initial approach to China focused on obtaining Chinese cooperation for tougher UN Security Council sanctions against North Korea as part of the administration’s “maximum pressure” approach. Contentious economic and security issues were muted as President Trump sought to build a positive personal relationship with Chinese President Xi Jinping, including regular phone calls and summit meetings at Mar-a-Lago in April 2017 and in Beijing in November 2017. The two sides agreed on a new high-level dialogue framework (the “US–China Comprehensive Dialogue”) that included a cabinet-level “Diplomatic and Security Dialogue” which met for the first time in June 2016. During this period, defense relations were described as “an important aspect of a constructive and results-oriented bilateral US–China relationship” that should be strengthened and improved to support the broader bilateral relationship.<sup>23</sup>

The release of the National Security Strategy in December 2017 and the National Defense Strategy in January 2018 signaled a tougher approach. The National Security Strategy described China and Russia as “revisionist powers” and great power competitors that “want to shape a world antithetical to U.S. values and interests.” It advocated redoubled efforts to build a US military that can defeat its adversaries and to position the United States to compete effectively in the nuclear, space, and cyber domains. The strategy noted that “The United States will seek areas of cooperation with competitors from a position of strength, foremost by ensuring our military power is second to none and fully



integrated with our allies and all of our instruments of power.”<sup>24</sup> Admiral Harry Harris described the US Pacific Command approach as to “cooperate where we can to collectively address our shared security challenges, but remain ready to confront its provocative actions where we must.”<sup>25</sup> Senior Trump Administration officials and military officers endorsed continued military contacts with China to improve understanding, manage frictions, and reduce risk.

The current US–China strategic relationship is a mix of cooperation and competition, with some shared interests and a number of areas of conflicting and competing interests. Leaders in both countries are aware that a confrontational US–China relationship would have high costs for both sides and are attempting to build mechanisms that can support cooperation where possible, handle policy differences without confrontation, and manage crises and incidents effectively when they arise. The need to avoid disaster provides a compelling rationale for sustained and substantive military-to-military contacts and better crisis communications and management mechanisms. However, it also raises questions about whether this ambiguous relationship provides a sustainable basis for more extensive military cooperation.

### **Structure and trends in military-to-military relations**

The United States conceptualizes and manages military ties with China in several distinct categories, including high-level visits and engagements, recurrent exchanges (including dialogue mechanisms), functional exchanges, academic exchanges, and exercises and ship visits.

- **High-level visits and engagements:** these typically involve interactions between top US civilian officials such as the Secretary of Defense and senior military leaders such as the chairman of the Joint Chiefs of Staff, the heads of US military services (Army, Navy, Air Force, Marines), and regional commanders with responsibilities for Asia (such as the US Pacific Command and Pacific Fleet commanders) with their Chinese counterparts. According to the Office of the Secretary of Defense (OSD), “High-level contacts are an important means to exchange views on the international security environment, to identify areas of common interest, to manage differences, and to facilitate common approaches to shared challenges.”<sup>26</sup>
- **Recurrent exchanges:** “Recurring institutionalized events form the backbone of US–China defense policy discussions each year. They serve as a regularized mechanism for dialogue at the strategic and policy levels”<sup>27</sup> These policy dialogues include security dialogues nested under the US–China Comprehensive Dialogue such as the Diplomatic and Security Dialogue, regular senior policy dialogues at the Undersecretary of Defense level (the Defense Consultative Talks), lower-level policy dialogues at the Deputy Assistant Secretary of Defense level (the Defense Policy Coordination Talks), and operational dialogues (the Military Maritime Consultative Agreement).

- **Functional exchanges:** Reciprocal exchanges – between functional officers, rising leaders, and institutions of professional military education – help to identify and explore new areas of cooperation, discuss differences, and develop a generation of leaders on both sides who are knowledgeable and adept at handling this increasingly complex and vital U.S.–China military-to-military relationship.<sup>28</sup> These exchanges include activities in areas ranging from military medicine to peacekeeping and humanitarian assistance/disaster relief (HA/DR) operations.
- **Academic exchanges:** Although academic exchanges between military educational institutions such as the two countries' National Defense Universities are classified as "functional exchanges," in practice they are managed separately and are viewed by both sides as less sensitive areas for military-to-military cooperation.
- **Ship visits and exercises:** "Ship visits and exercises promote trust between the two sides and build joint capacity to provide international public goods in areas of mutual interest, such as SAR [search and rescue], HA/DR [humanitarian assistance and disaster relief], and counter-piracy."<sup>29</sup> Most of these exercises have involved relatively low-level activities in non-traditional security areas. In 2014, China was invited to participate in the Cobra Gold multilateral exercise, which focused on humanitarian assistance and disaster relief, and parts of the Rim of the Pacific (RIMPAC) exercise; China's 2014 RIMPAC participation included a naval gunnery exercise. China participated in RIMPAC in 2016, but the United States canceled an invitation for China to participate in the 2018 exercise, citing China's deployment of anti-ship missiles, surface-to-air missiles and electronic jammers in violation of Xi Jinping's pledge not to militarize the Spratly Islands.<sup>30</sup>

Several studies of US–China military-to-military relations have highlighted the fragility of military ties and the tendency for both sides to suspend military ties as a means of expressing displeasure at the other side's actions.<sup>31</sup> Scholars have identified a number of underlying causes, including the changing and fragile strategic and political basis for defense contacts and exchanges. Kevin Pollpeter identifies cultural differences in the ways the United States and China pursue cooperation as an additional cause:

A significant hindrance in developing US–China military relations is the fundamentally opposite approach each side uses in pursuing cooperative relationships. The US military prefers a bottom-up approach in which lower-level contacts build trust and identify areas of common interest. Once identified, these areas can be built upon with more in-depth cooperation. The PLA, on the other hand, prefers a top-down approach in which higher-level dialogue is employed to build trust, which is a stepping stone to identify and reach areas of agreement. Without this trust and agreement on strategic issues, the PLA is uncomfortable with further enhancing cooperation.<sup>32</sup>

Additional causes including the PLA's reluctance to be transparent about its military capabilities, sensitivity to being embarrassed if its forces do not perform to an acceptable standard, and mutual suspicions and lack of mutual trust.<sup>33</sup> US concerns about lack of reciprocity, need to protect US advantages in technology and tactics, techniques, and procedures (TT&P), desire for tangible outcomes, and worries about negative reactions from allies and partners are other constraining factors.<sup>34</sup>

Some of these US concerns are codified in the FY2000 National Defense Authorization Act, which limits military cooperation with China that might provide “inappropriate exposure” in 12 sensitive areas. Chinese military officers complain that the legislation discriminates against China and cite it as one of the “three obstacles” inhibiting the development of US–China military-to-military relations (the others are US arms sales to Taiwan and US reconnaissance operations in airspace and waters near China). Although the legislation and the bureaucratic procedures to ensure compliance impose procedural delays on US military interactions with China that cause some opportunities for productive interactions to be missed, in this author's judgment, repeal of the restrictions would not produce a fundamental transformation of relations.

Empirical data on US–China relations generally support the findings of the studies cited above. The data presented below are collected from 2010–2018 US DOD reports and from Shirley Kan's January 2015 Congressional Research Service report, *US–China Military Contacts: Issues for Congress*.<sup>35</sup> Although the data do not provide a complete record of US–China military-to-military interactions, they are sufficient to provide a sense of broad trends.

Table 4.1 and Figure 4.1 present the available data on US–China military-to-military relations. The period from 2000 to 2011 illustrates the “on-again, off-again” pattern of military-to-military relations described in the literature. As Figure 4.1 illustrates, accidents like the EP-3 incident and actions like US arms sales to Taiwan could produce a decision by one side or the other to interrupt military contacts; conversely improvements in political relations could produce a corresponding improvement in military ties. The data from 2008–2010 reflect China's sense of increasing leverage in US–China relations. As the United States struggled to recover from the global financial crisis, a number of retired PLA officers argued that China should use its increased power to punish the United States for arms sales to Taiwan. Some also called for Chinese sanctions or boycotts against US companies selling arms to Taiwan.<sup>36</sup> Despite threats, these sanctions did not materialize, but China could and did suspend military-to-military ties to demonstrate its unhelpiness.

Based on interviews with PLA officers from 2011 to 2014, Eric Hagt found a shifting attitude toward military ties with the United States.<sup>37</sup> Some PLA officers found significant value in interactions with the US military, especially given the potential to learn from US experiences in conducting joint and expeditionary warfare and a range of counter-piracy, humanitarian assistance, and non-combatant evacuation operations. As PLA missions and taskings broadened to include more operations outside China's borders (such as counter-piracy operations in the Gulf

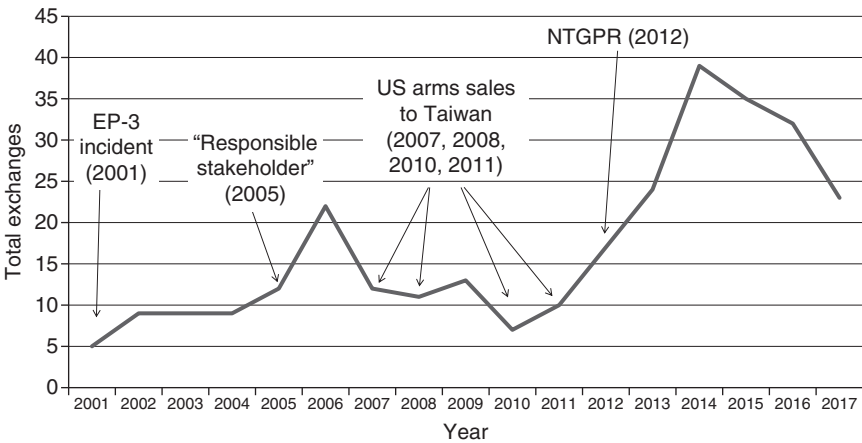


Figure 4.1 Total US–China military to military exchanges (2001–2017).

Table 4.1 Total US–China military to military exchanges (2000–2017)

| Year | High-level visits | High-level multilateral exchanges | Recurrent exchanges | Functional exchanges | Academic exchanges | Ship visits and exercises | Total |
|------|-------------------|-----------------------------------|---------------------|----------------------|--------------------|---------------------------|-------|
| 2000 | 9                 | 0                                 | 6                   | 3                    | 4                  | 3                         | 25    |
| 2001 | 1                 | 0                                 | 2                   | 1                    | 0                  | 1                         | 5     |
| 2002 | 2                 | 0                                 | 3                   | 1                    | 2                  | 1                         | 9     |
| 2003 | 2                 | 0                                 | 2                   | 2                    | 1                  | 2                         | 9     |
| 2004 | 3                 | 0                                 | 3                   | 1                    | 0                  | 2                         | 9     |
| 2005 | 3                 | 0                                 | 5                   | 2                    | 1                  | 1                         | 12    |
| 2006 | 4                 | 0                                 | 5                   | 7                    | 2                  | 4                         | 22    |
| 2007 | 7                 | 0                                 | 1                   | 3                    | 1                  | 0                         | 12    |
| 2008 | 2                 | 0                                 | 4                   | 5                    | 0                  | 0                         | 11    |
| 2009 | 3                 | 0                                 | 5                   | 5                    | 0                  | 0                         | 13    |
| 2010 | 0                 | 0                                 | 4                   | 3                    | 0                  | 0                         | 7     |
| 2011 | 4                 | 0                                 | 4                   | 2                    | 0                  | 0                         | 10    |
| 2012 | 5                 | 0                                 | 5                   | 2                    | 4                  | 1                         | 17    |
| 2013 | 5                 | 0                                 | 6                   | 5                    | 4                  | 4                         | 24    |
| 2014 | 6                 | 2                                 | 7                   | 8                    | 8                  | 8                         | 39    |
| 2015 | 4                 | 4                                 | 6                   | 7                    | 5                  | 9                         | 35    |
| 2016 | 3                 | 2                                 | 7                   | 10                   | 2                  | 8                         | 31    |
| 2017 | 3                 | 1                                 | 7                   | 7                    | 2                  | 3                         | 23    |

of Aden and evacuation operations from Libya), the PLA had an increased appetite to learn from the United States and other advanced militaries. Moreover, improving PLA weapons and training reduced the risk of embarrassing mistakes and made the PLA better positioned to put what it learned from foreign militaries into

practice. There was also a growing recognition within the PLA that military-to-military relations and confidence-building measures could help reduce risks as PLA ships and aircraft interacted more regularly with US military forces. The author's interactions with PLA officers during this period also found active duty and retired PLA officers resentful that the PLA was the one to pay the price (in suspending useful contacts) when it became necessary for China to respond to US arms sales to Taiwan and grappling for alternative means to punish the United States for arms sales.

The data in Table 4.1 and Figure 4.1 show a dramatic increase in US–China military-to-military interactions from 2012 to 2014, with some drop off from 2015 to 2017. To some extent, the increase in contacts reflects sustained momentum in the relationship as scheduled engagements proceeded without interruption and it became possible to schedule more ambitious follow-on dialogues and activities. Some of the increase also reflects new actors seeking to become more active in US–China military–military (“mil–mil”) relations. For example, military educational exchanges had long centered around the established relationship between the US and Chinese National Defense Universities, but other US military education institutions such as the Naval War College, Army War College, and the Air War College became more active in seeking to establish exchanges with their Chinese counterpart institutions. The US Joint Staff established a new joint staff dialogue mechanism with the PLA Joint Staff Department and the US Army established new contacts with the PLA ground forces. Sustained contacts also made it possible for US military leaders to seek to build stronger relationships with their PLA counterparts. Most notable was US Chief of Naval Operations Admiral Jonathan Greenart's efforts to build a relationship with PLA Navy commander Admiral Wu Shengli, which included four meetings and a phone call in 2013.<sup>38</sup>

Sustained military-to-military ties made some new interactions possible, including PLA participation in the Cobra Gold and “Rim of the Pacific” (RIMPAC) exercises. The PLA had previously observed the Cobra Gold exercises, but in 2014 and 2016 was a full participant. The United States, Australia, and China participated in the small-scale Kowari trilateral exercise in Australia from 2015 to 2017, and China began participating in the annual US–Mongolian multinational peace operations exercise Khaan Quest in 2015.

One major area of progress involved efforts to establish confidence-building and crisis communications mechanisms. This was a focus of the Clinton Administration in the late 1990s, and eventually produced some useful mechanisms such as a defense hotline (which was activated in 2008). However, these embryonic mechanisms proved useless in managing the 2001 EP-3 crisis, when Chinese counterparts refused to answer phone calls and US military leaders were unable to leverage relationships with their Chinese counterparts to help resolve the dispute.<sup>39</sup>

By contrast, in 2014 and 2015, the two militaries were able to establish a number of potentially important mechanisms. One was a Memorandum of Understanding (MOU) on Notification of Major Military Activities. The MOU

has a modular design that can incorporate new notification mechanisms via annexes. The initial agreement included two annexes: one covering strategy and policy announcements and one on the observation of military exercises. The United States has placed priority on completing an annex for ballistic missile launch notifications.<sup>40</sup>

Reflecting US concerns about the risk of accidents resulting from aggressive PLA intercepts of US surveillance aircraft and ships, the two militaries also agreed on a MOU on Rules of Behavior for Safety of Air and Maritime Encounters. Drawing on existing international agreements and practice, the two sides agreed on a framework MOU in November 2014 that included annexes with terms of reference and rules for surface-to-surface encounters. An additional annex governing air-to-air encounters was signed during Xi Jinping's visit to Washington in September 2015. The two militaries also reached agreement on crisis communications mechanisms that specified how they would use a new secure video link to communicate.<sup>41</sup> The video link has also been used for routine communications between US and Chinese senior military officials, allowing more frequent dialogue between counterparts without the need for travel.

What explains this expansion of US–China military-to-military relations? Xi Jinping's call for a "NTMPR" and concomitant calls for "new type of military-to-military relations" provided a positive political environment for expanded PLA interactions with the US military. PLA leaders were more interested in expanding military ties to learn from the United States than in the past and more confident that PLA units were capable of holding up their end in military interactions without the risk of embarrassing failures. Moreover, the lack of major US arms sales to Taiwan from 2012 until the end of 2015 meant that China did not face a hard decision on whether to sever or greatly curtail military ties in response.<sup>42</sup> (When the United States announced plans to sell two warships and anti-tank missiles to Taiwan in December 2015, China's official response was relatively restrained, and did not include a major suspension of military-to-military ties.<sup>43</sup>)

The most important reason for China's desire to build a "new type of military-to-military relationship" with the United States rests on the same strategic logic that underpins Chinese leadership efforts to stabilize US–China political relations: to prevent the United States from deciding to confront China. Given increasing military competition in the space, cyber, and nuclear domains and increasing air and naval interactions between the two militaries (with the risk of incidents or accidents that might escalate), Chinese leaders may have decided that the previous pattern of on-again, off-again military ties posed unacceptable risks.<sup>44</sup>

Xi Jinping appears to have been personally concerned about the risks of military accidents and dissatisfied with the policy options the PLA produced for US–China military relations. He commissioned two studies on US–China military relations from the China Institutes of Contemporary International Relations and Fudan University's Center for American Studies to generate independent assessments of the pros and cons of expanding military ties with the

United States.<sup>45</sup> A senior PLA officer stated privately that Xi Jinping had ordered the PLA to increase its military interactions with US military counterparts.<sup>46</sup> Despite convincing evidence of civilian intervention into the military domain, the PLA appears to have been able to shape the direction of policy to pursue areas of interest (e.g., learning about joint operations from the US military) and to avoid unwanted commitments (e.g., binding arms control negotiations).<sup>47</sup> This pattern was also evident after Xi Jinping's September 2015 commitment not to "militarize" the artificial islands China constructed in the South China Sea. PLA officers tried to interpret Xi's pledge as narrowly as possible so that it would not constrain future deployments of weapons and troops to the islands.<sup>48</sup> China subsequently deployed surface-to-air missiles and anti-ship cruise missiles to some of the islands in May 2018.<sup>49</sup>

### **Future development of military-to-military relations**

Does the more positive PLA attitude toward military contacts with the United States mark a fundamental shift in China's approach that will lead to sustained and productive military-to-military relations in the future? Any answer is necessarily tentative. Unfortunately, our conclusion is that the shift in Chinese policy reflects a tactical desire to improve its ability to maintain a stable relationship with the United States rather than a strategic shift in approach. If China concludes that efforts to build a "new type of major power relationship" with the United States will fail, the "new type of military-to-military relationship" cannot last either. Moreover, the Trump Administration views China as a competitor and has a more skeptical attitude toward the value of cooperation with Beijing, reducing US interest in developing better military-to-military ties with the PLA. A number of factors support the pessimistic conclusion that Sino–US military cooperation is likely to remain limited.

### ***Increasing US–China military competition in critical strategic domains***

As discussed above, there is increasing Sino–US military interaction and competition in key strategic domains. The US military regards the ability to operate in the space and cyber domains as critical to its ability to fight and win wars. Chinese military strategists share the assessment that space and cyber are critical battlegrounds for the information dominance necessary to fight and win "limited wars under conditions of informationization."<sup>50</sup> PLA strategists have viewed US space and cyber superiority as a critical foundation for US military power, which they wish to both emulate (to build China's military power) and exploit (to target US military vulnerabilities). US military strategists see Chinese investments in counterspace capabilities such as anti-satellite weapons as targeting US satellites and are offended at successful attacks on US military and government computer networks that are credibly attributed to China. Bland denials that the PLA engages in any cyber operations and statements that Chinese weapons tests "are



not aimed at any country” are counter-productive: they destroy trust rather than providing assurance. China’s establishment of a new Strategic Support Force as part of the PLA reforms that began at the end of 2015 highlights the centrality of space and cyber in China’s efforts to build a military that can fight and win informationized wars.<sup>51</sup> US nuclear superiority has allowed the United States to have a relatively relaxed attitude toward China’s modernization and expansion of its modest nuclear arsenal. However once China’s *Jin* class ballistic-missile-carrying nuclear-powered submarines (SSBNs) begin deterrence patrols, the US Navy is likely to devote resources to tracking and monitoring them, just as it did with Soviet SSBNs.

### ***Increasing US–China competition in the Indo–Pacific***

China’s investment in a range of conventional military systems is challenging US military dominance in the Indo–Pacific. China’s investment in domestic and Russian conventional submarines, warships armed with advanced anti-ship cruise missiles, improving aircraft, and a formidable array of increasingly accurate ballistic missiles will make it more difficult and costly for the US military to project power near and into Chinese territory.<sup>52</sup> Some Chinese systems, such as the DF-21D anti-ship ballistic missile, are specifically designed to target US aircraft carriers. The United States is likely to respond both with innovative systems (such as a new strategic bomber), technologies (under the third offset strategy), and operational concepts (such as AirSea Battle, now labeled the Joint Concept for Access and Maneuver in the Global Commons) that Chinese military analysts will regard as highly threatening. The competition goes well beyond military hardware, with US strategists believing that China seeks to erode US alliances and expel the United States from the region and Chinese strategists arguing that the United States is using its alliances and military forces to interfere with Chinese territorial claims. This increasing sense of military competition is not conducive to a positive military-to-military relationship, since it produces a tendency for each side to view each other’s capabilities as threatening and promotes arms race dynamics. Moreover, the US military has little incentive to help the PLA improve its conventional war-fighting capabilities given the potential for China to use those capabilities against the United States.

### ***Chinese suspicion of US political objectives***

Another obstacle is continuing Chinese suspicion that the United States seeks to overthrow the CCP and subvert its political control over the PLA. Indeed, the 2015 defense white paper flatly states that “some country” seeks to foment a “color revolution” in China.<sup>53</sup> Articles and media appearances by active and retired PLA officers reveal little trust in the United States. A vivid illustration is the 2013 film *Silent Contest*, coproduced by the PLA National Defense University Political Department, which described the US push for closer military-to-

military relations as a plot designed to corrupt Chinese officers.<sup>54</sup> PLA officers increasingly view the United States as the greatest threat to China, an attitude that obviously impedes constructive and cooperative military ties.<sup>55</sup> Moreover, US strategic documents such as the 2017 National Security Strategy and the 2018 National Defense Strategy openly describe China as a competitor.

### ***Declining US confidence in the ability of military contacts to change Chinese military behavior***

US policymakers have viewed military-to-military contacts as a means to learn more about Chinese military thinking and capabilities but also as a means to influence Chinese behavior, especially in a crisis situation. US senior officers get promoted to senior positions partly based on their ability to establish and employ good relations with their foreign counterparts, military peers, and subordinates. However, the Chinese system for managing military ties makes it difficult to build such relationships with active duty PLA officers. Moreover, even if US military officers can build personal ties, their PLA counterparts are not usually empowered to resolve a dangerous crisis situation. One recent research paper based on interviews with 11 retired US three and four-star flag officers with active duty PLA engagement experience concluded that personal relations with PLA officers have minimal operational value due to numerous individual barriers that prevent the building of trust between counterparts and institutional barriers that prevent the translation of relationships into operational value.<sup>56</sup>

## **Conclusion**

The situation is not as dire as the foregoing may suggest. China has a strategic imperative to avoid a hostile relationship with the United States, which is the most powerful country in the international system and uniquely positioned to facilitate or obstruct Chinese objectives. The United States also has incentives to maintain a working relationship with China and keep it as a “moderately revisionist” country in the international system, as opposed to a country actively trying to overthrow existing international rules and norms. This suggests that the two countries will maintain an ambiguous relationship marked by a mixture of cooperation and competition. In this context, there will be space for military-to-military relations to continue and for the two militaries to engage in some cooperative real-world activities.

Nevertheless, the factors discussed above are likely to limit the degree to which military contacts build a significant degree of trust between the US and Chinese militaries and suggest that bilateral operational cooperation is likely to remain fairly limited. However, even if expectations should be tempered, there can still be significant value in US–China military-to-military contacts. Better understanding of how the other military thinks and operates can help avoid misperception and miscalculation. Common understandings about international rules of behavior can help reduce the risk of accidents and incidents, and better crisis

management and communications mechanisms can help prevent escalation when they occur.

However, much will depend on how these measures are implemented. In a recent bilateral dialogue, a PLA officer stated that China had used the notification mechanism to inform the United States that it had *stopped* its island-building activities in the South China Sea but remained silent when asked if it had used the mechanism to notify the United States when the activity *started*. This serves as a reminder that confidence-building measures that are not consistently implemented may actually undermine mutual trust. PLA officers have been ambiguous on whether the rules for air and maritime interactions will apply in the South China Sea, an area of increasingly contentious US–China operational interactions. The US Navy has increased its “freedom of navigation” operations in the South China Sea, which are used to assert US maritime rights and to challenge excessive maritime claims. PLA forces routinely verbally challenge the US military’s right to operate in waters that China claims and follow US Navy ships when they operate in the South China Sea. The potential for an accident or incident to escalate into a broader military crisis highlights both the increasing competitive nature of US and Chinese military interactions, and the importance of military-to-military relations in helping to manage these tensions.

US chairman of the Joint Chiefs of Staff Joseph Dunford’s February 2017 comments on the US military-to-military relationship with China reinforce both the priority of national interests in governing military-to-military relations and the need to manage operational interactions properly.<sup>57</sup>

Positive military-to-military relationships are important. I have spoken to my Chinese counterpart and conducted a video teleconference and I expect that we’ll have a face-to-face visit sometime in the near future ... Our military-to-military relationships are informed by our national objectives. And so the nature of our military-to-military relationship with China right now will be very consistent with our political relationship with China. But at a minimum [we need] open lines of communication to mitigate the risk miscalculation and to address some of the incidents at sea and in the air that we’ve seen, much like we talked about Russia earlier, we’ve seen similar incidents with China. And I want to do as a military leader all I can do to mitigate the risk of tactical actions having adverse strategic consequences. That’s the framework in which we’ll begin to develop our relationships with China.

The Trump Administration’s description of US–China relations as competitive in nature openly acknowledges the reality that has guided both US and Chinese policy for some time.<sup>58</sup> This sense of heightened competition for regional influence and for military dominance in the maritime, space, and cyber domains has the potential to tilt the balance of competition and cooperation in US–China relations toward unrestrained strategic rivalry. The fact that US and Chinese analysts

both view the space and cyber domains as critical to success in modern warfare only increases the stakes. Finding a way to manage competitive US-China military relations is likely to be the principal strategic challenge of the twenty-first century. While this more competitive US-China relationship will likely to limit the potential for military cooperation, it also increases the need to keep military lines of communication open in order to increase mutual understanding, reduce risks, and manage inevitable crises.

## Notes

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## 5 PLA perspectives on national security

### Institutional interests and party–military relations under Xi

*Yuan Jingdong*

The People's Liberation Army's (PLA) professional worldview is composed of two key elements: the first concerns its perspectives on the evolving international and regional environment. The second entails its professional analysis of major world military developments affecting China's security and of how the PLA can best position itself to meet those challenges. In turn, this worldview is to a significant extent shaped by the Chinese Communist Party's (CCP) overall assessment of prevailing trends in international peace and development, its vision of an international order conducive to China's near to medium-term geopolitical and economic objectives, and a grand strategy that seeks to mobilize and utilize available resources to realize these outcomes. For the Xi Jinping Administration, these objectives are captured in both the abstract "Chinese Dream" and the more specific "Two Centennials" – with the latter projecting China becoming a materially well-off middle-income power by 2021, and a fully developed nation by 2049. As Chinese global interests expand, the PLA's historical missions include not only safeguarding China's national sovereignty and territorial integrity, but also the protection of Chinese citizens, businesses, and interests overseas. While the PLA is undertaking significant reforms in its organization, procurement, and training, it is also actively engaging in military diplomacy to enhance China's image as well as strengthen confidence building vis-à-vis its counterparts in order to reduce the likelihood of incidents and better manage crisis situations in China's regional periphery and beyond.

Assessing the PLA's professional worldview involves an analysis of the specific emphases or nuances of the military (being an important institution and understandably a strong interest group), and the extent to which this affects its interactions with other party–state actors in the broader context of China's foreign policy. The question then becomes, whether, and to what extent, the PLA's parochial interests – either as a reflection of its view of the world, or articulated in such a manner as to advance them within the government as a whole – actually results in it seeking to influence foreign policymaking. Our general understanding of civil–military relations in China, which has been greatly enriched by decades of research,<sup>1</sup> would suggest that the PLA by and large shares and follows the overall foreign and security outlook of the CCP Politburo Standing Committee, through the Central National Security

Commission (CNSC), the Central Military Commission (CMC), and the Foreign Affairs Commission of the CCP Central Committee. To the extent that it seeks to influence policy, this is largely done by providing professional assessments in those areas where it clearly has the expertise, not just the interests, such as the United States (US) arms sales to Taiwan, cross-Straits relations, sovereignty and territorial disputes in the East China Sea (ECS) and South China Sea (SCS), maritime security, and US military presence in the Indo-Pacific. It is not an attempt to change the course of policy direction, but rather, to emphasize certain aspects of national policymaking.

A word about the methodology is in order before the discussion in the following sections. The first has to do with a definition of the PLA's worldview. In this chapter, it is reflected by the official statements by top Chinese military leaders, general and academic analyses by influential PLA commentators and analysts, as well as the scholarly works of strategic analysts either affiliated to the PLA or retired PLA soldiers—scholars who continue to publish their opinions on China's military affairs.<sup>2</sup> This chapter will also make extensive use of secondary PLA scholarship by influential analysts outside of China. Granted, given time constraints and resource limitations, it is impossible to gather and comb through the voluminous PLA materials in the Chinese medium (a sizeable portion of which is either a transliteration of English-language sources or regurgitation of the CCP's official line with little to no distinct PLA perspective), this chapter cannot – and does not – claim any ground-breaking insight. What it does endeavor to accomplish, however, is to highlight those areas where the PLA's unique perspectives and expertise may encourage it to voice its interests and concerns within the proper policymaking process in the hopes that its policy preferences may be given adequate consideration.

The remainder of the chapter is as follows. It begins with a discussion of the national security challenges confronting the Xi Jinping Administration and the rationale behind perceived Chinese assertiveness; the PLA's perspectives of these world issues, with a focus on recent US military developments in the region and especially the intensifying territorial disputes in the ECS and SCS. This is followed by a discussion of Xi's proposal for a "New Type of Great Power Relationship (NTGPR)" and a new type of military-to-military ties between China and the US, and the PLA's position on these issues. Following a brief overview of the PLA's role in US-China military diplomacy under the larger context of China's policymaking process, the chapter then concludes with some preliminary observations of the PLA's professional worldview and its impact on Chinese foreign policy. It suggests that even if the PLA may place greater emphasis on issues critical to its missions, on those areas where its professional views and expertise provide it with a stronger voice in policymaking, its impact may be more tactical than directional in that the overall strategic goals set by the civilian leadership takes precedence over the military's preferred courses of action.

## China's changing security environments since the 18th Party Congress

The international and regional security environment that China's fifth generation leadership inherited in late 2012 was a deteriorating one. The preceding decade – when China enjoyed a period of relative stability and prosperity and glowed in its charm offensive in the region – ended with intensifying territorial disputes with countries in its regional periphery and the US refocusing its strategic attention on Asia. The Xi Administration not only had to manage the daunting task of domestic economic reforms at a time of slowing economic growth but also faced grave foreign policy challenges amid an increasingly complex external security environment.<sup>3</sup> These include managing territorial disputes, fluctuating US–China relations, and policymaking under an increasingly complex environment that calls for a delicate balance between *maintaining stability* (*weiwen* 维稳) i.e., having stable relationships with its neighbors and the US and *protecting Chinese interests* (*weiquan* 维权), that is, standing up for issues concerning its national sovereignty and territorial integrity.<sup>4</sup>

One significant change in the region's security environment for China relates to its growing territorial disputes with Japan and a number of Southeast Asian countries. Over the past few years, tensions over territorial disputes in the SCS as well as the ECS have escalated sharply, with Beijing and the other claimant states increasingly resorting to strong measures to assert their sovereignty claims.

In the SCS, since 2008 for example, China has been engaged in an ever-escalating tussle with Vietnam and the Philippines that has resulted in dispatch of maritime surveillance and law enforcement ships to the contested areas; seizure of disputed features such as the Scarborough Shoal/Huangyandao in 2012; detainment and punitive measures against fishermen; disruptions of sea drilling activities such as the cutting of underwater cables; deep-sea drilling in disputed blocs, large-scale land reclamations as well as close-proximity face-offs between the maritime vessels of claimant states.<sup>5</sup> However, the development that has grabbed the most attention have been China's massive land reclamation projects in the SCS in recent years; the speed and scale have been unprecedented and unsurpassed. These have involved over 3,000 acres of reclaimed land; the construction of runways and airstrips; installation of radar facilities and anti-air missile batteries; and fortification of – allowing China to project power to a vast area in the SCS.<sup>6</sup> On July 12, 2016, the Arbitral Tribunal set up under the Permanent Court of Arbitration in The Hague, the Netherlands, issued a unanimous award in the arbitration instituted by the Republic of the Philippines against the People's Republic of China.<sup>7</sup> Beijing dismissed the award and charged that Manila violated their bilateral understanding that the disputes should be resolved through negotiation between the two sides, not by any unilateral undertaking, including resorting to international arbitration. The tensions have since dissipated somewhat with the new Duterte government adopting a more practical approach to the issue given the more urgent task of reviving the Philippines' economy, to which China could offer significant assistance.<sup>8</sup>

Likewise, in the ECS, Tokyo's decision in September 2012 to nationalize three of the Senkaku/Diaoyu islands triggered waves of anti-Japanese protests within China and saw a rapid deterioration in bilateral relations, causing bilateral relations to deteriorate even further from the previous "cold politics, warm economics." By the end of 2012, the more right-wing Liberal Democratic Party had unseated the Democratic Party of Japan to return to power, with the hawkish Prime Minister Shinzo Abe vowing to confront China and safeguard Japanese sovereignty over the islands.<sup>9</sup> In late 2013, China unilaterally announced an Air Defence Identification Zone (ADIZ) covering the disputed territories and triggering strong rebuffs from Tokyo. Five years on, the Senkaku/Diaoyu dispute has shown no sign of being resolved; on the contrary, it has severely affected the Sino-Japanese relationship and reflected a growing degree of mutual distrust and intensifying rivalry. There have been routine aerial and maritime encounters with both countries' coast guard ships and air force planes operating in increasingly close proximity, heightening the risk of inadvertent incidents one day.<sup>10</sup>

These ECS and SCS disputes raise two issues. One is the Chinese leadership's ability to manage domestic pressure in the face of rising nationalism demanding Beijing's assertion of its sovereign rights over the islands. Indeed, the advent of social media and the attendant public opinion make it nearly impossible for the government to conceal developments perceived to be encroachments on Chinese sovereignty, making diplomatic negotiations difficult lest Beijing is perceived as either weak or selling Chinese interests to Japan, whom many Chinese continue to blame for its "Century of Humiliation"; and likewise, to Vietnam and the Philippines, whom China regards as smaller secondary powers.<sup>11</sup>

Equally pertinent, and relevant to this chapter, is whether the PLA holds a more hawkish view of the territorial disputes and how it has tried to influence Chinese policymaking.<sup>12</sup> PLA analysts tend to focus on the larger strategic issues rather than specific territorial disputes with other claimant states, and appear to hold more hawkish views in general. On careful reading, however, these in fact reflect professional PLA assessments of the dynamics of regional security issues in the context of US-China relations, and in particular, the potential strategic rivalry between the two.<sup>13</sup> For instance, many argue that regional developments over the past few years provide an opportunity for the US to wade into the disputes, with undisguised leaning to the other contenders despite public disavowals to the contrary.<sup>14</sup> From the PLA's perspective, continued stalemates and further escalation could provide the pretext for even greater US involvement, including direct military assistance to its alliance partners.

Chinese military analyses suggest that the Enhanced Defence Cooperation Agreement between the US and the Philippines, for instance, provides the US Navy and Air Force access to bases and facilities in the Philippines, and could embolden Manila to confront Beijing. Accordingly, part of Washington's strategy is thus to align with the region's other claimant states to counter China's efforts to assert its maritime rights in the SCS.<sup>15</sup> Moreover, PLA analysts also point out that a recent senate amendment to the 2013 Defence Authorization Act

reaffirms US treaty obligations to the defense of Japan, including territories under Tokyo's administrative control.<sup>16</sup> They also note that high-ranking US military officers have publicly encouraged claimant states in the SCS to jointly establish naval fleets to patrol the disputed areas while promising greater American support.<sup>17</sup> Indeed a number of Asian claimant countries engaged in territorial spats with China have recently hardened their positions and sought to internationalize the issue, and seem to have taken place in the aftermath of former US Defense Secretary Ashton Carter's visits to those countries or meetings with their leaders.<sup>18</sup>

PLA analysts also reject US assertions that China's land reclamation and installation of limited defense equipment constitutes militarization of the SCS. They argue instead that it is the US' aerial and underwater intelligence-gathering and surveillance activities as well as the so-called freedom of navigation patrols near Chinese territorial waters that have heightened tensions and threatened to militarize the otherwise peaceful regional environment. In point of fact, they point out that Washington has shifted from relative neutrality and non-involvement, to involvement and even deep involvement, including elevating security cooperation with Hanoi and Manila.<sup>19</sup>

Indeed, Chinese military analysts are acutely aware of the US role in the aforementioned disputes in the broader context of the geostrategic realignment in the region. They see recent US efforts in strengthening its alliances and encouraging its regional allies and partners to form stronger security partnerships being driven by a number of considerations. First and foremost is Washington's desire to maintain its predominant position in the Asia-Pacific region. The rebalance to Asia reveals US strategic intentions, given China's rise as a major power that could challenge US preponderance.<sup>20</sup> A recent analysis by PLA National Defense University (NDU) analysts point out that despite its economic difficulties and concomitant sequestration on defense spending with the 2013 Budget Control Act, the US military will nevertheless increase its presence, including relocating its most advanced weapons systems to the region.<sup>21</sup> Furthermore, one other important objective of the rebalancing is to expand existing alliances into trilateral or quadrilateral security alignments to enlist support from the region's other major powers so as to buttress American primacy in the emerging Indo-Pacific region, as epitomized by US-India defense cooperation in recent years.<sup>22</sup>

The election of Trump as US President poses significant challenges to Beijing. For the first time in years, the latest US National Security Strategy explicitly names China as a future challenger to American primacy and hence a threat to its interests, and President Trump has signed off the Taiwan Travel Act into law, openly challenging Beijing's bottom-line on cross-Straits relations and national sovereignty. While Beijing's responses have been rather restrained so far, the Chinese government is nonetheless adamant in insisting that the "One China" is the foundation of Sino-US relations and cannot be traded as Trump's penchant for treating everything as transactional. Indeed, a China under President Xi Jinping, who has further consolidated his power since the 19th Party

Congress, is unlikely to back down on issues it considers as core interests, from territorial disputes in the SCS, to US freedom of navigation patrols (FONOPs) close to or through Chinese-claimed territorial waters.<sup>23</sup>

### ***Rationale behind perceived Chinese assertiveness***

Before we assess the PLA's professional worldview on these and other important issues in the following section, it is important to understand why Beijing has adopted what analysts characterize as an assertive posture regarding territorial disputes in the ECS and SCS, for a number of reasons. One suggestion is that Xi Jinping needs to consolidate his position as a decisive leader and appeal to the PLA, a key constituent of his power base. There are numerous reports that before he was anointed the top leader, he had already been given the responsibility of overseeing a leading small group managing the Senkaku/Diaoyu dispute.<sup>24</sup> During 2012–2013, the situation was particularly tense, with Chinese maritime surveillance and enforcement ships routinely being spotted either near or within the 12-mile perimeters of the island groups. Tokyo protested vehemently in response to an alleged Chinese PLA Navy (PLAN) ship locking its fire radar on a Japanese coast guard ship. This clearly raises questions about the influence and role of the military in the ongoing disputes with Japan and, for that matter, in maritime territorial disputes in general.<sup>25</sup>

Second, Beijing's non-yielding posture on these territorial disputes reflects its recognition of the strategic importance of its maritime interests and rights, and constitutes part of a broader strategy to establish and strengthen its position in anticipation of future settlements. This has been amply demonstrated in the aftermath of the July 2016 Court of Permanent Arbitration that essentially sided with Manila's position against Beijing.<sup>26</sup> China's growing economic power and military capabilities now allow much more room for diplomatic maneuvering, unlike in the past when a relatively weak China fearing diplomatic isolation and without adequate naval reach settled for less in its negotiations with a number of neighboring countries, including reportedly ceding Chinese territories to smaller counterparts.<sup>27</sup> The PLA's views on these issues are therefore hardly any more hawkish than the prevailing perspectives and in any event reflect the new priorities set by the Chinese leadership, in particular since President Xi came to power in late 2012.<sup>28</sup>

Third, China's assertiveness also reflects the mentality of a rising power seeking to establish the ground rules in regional security affairs and recognition of the strategic importance of protecting its maritime rights and interests for economic reasons. The former is clearly demonstrated in Beijing's insistence on bilateral negotiations on resolving the territorial disputes and its rejection of multilateral forums. This latter stand is at once pragmatic since the disputes are not just between China and the other claimant states but also among the other contenders themselves; and defensive in the sense that bilateral negotiations are meant more at precluding US involvement than gaining advantage over its weaker counterparts. Meanwhile, with the growing weight of maritime commerce in China's overall GDP (projected to be 10 percent in the coming decade) and critical sealanes



of communication (SLOCs) for the country's international trade and imports of oil and raw materials, it becomes essential that Beijing demonstrates its maritime abilities over the SCS and its key economic waterways.<sup>29</sup>

However, such assertive (and at times aggressive) posture is also severely undermining other core elements of Chinese foreign policy, one of which pertains to nurturing and maintaining a stable and peaceful environment in China's periphery in promoting economic interactions with other Asian economies – a key component of Beijing's regional economic integration strategy. These territorial disputes and the ways with which China has handled them so far have essentially undone a decade of painstaking charm diplomacy and the accumulation of Chinese soft power in the region, and are driving its neighbors to Washington's embrace. Beijing suddenly finds itself feared rather than admired in the region, despite its growing importance as an economic growth engine. The US rebalance to Asia, while not entirely or indeed primarily driven by China's assertive behavior on territorial disputes, clearly benefits from Beijing's diplomatic misstep and has found much resonance in regional capitals from Tokyo, Hanoi, to Manila and Canberra, as these countries become deeply worried about a menacing Middle Kingdom and hence turn to the US for security assurance and protection. At the same time, America's allies and friends from Japan to India are also forming new security alignments and partnerships among themselves.<sup>30</sup>

The question, and challenge, for the Xi Administration is how to reconcile the objective of economic growth through better ties with its neighbors on the one hand, with the ambitious goal of finally being in a position to either reclaim or enforce such claims in the SCS and ECS and position itself to become the dominant power in the region, on the other. Here the desired balance is hard to arrive at given a number of considerations: (i) to maintain and increasingly enforce its claims to the territorial disputes without being seen as weak by its domestic constituents and other claimants alike; (ii) to establish and manage enforcement of these claims effectively while minimizing chances of miscalculation and incidents; (iii) to execute a strategy of divide and rule and prevent internationalization of the disputes and US involvement; (iv) to reassure neighbors of its peaceful intentions, expand economic ties, and re-establish its credentials as the region's rising but benign superpower; and (v) to do so with both unified voices and well-coordinated actions on the grounds. Xi is in a bind here; he needs all the support he can get from his core constituents but he must also demonstrate he is not hostage to parochial interests and is capable of establishing a domestic discourse reflecting China's true national interests and effect the best strategies to accomplish them.<sup>31</sup> Toward that end, the PLA plays an important role in formulating and implementing China's policy on the territorial disputes in particular, and China's broader foreign and security policy in general.

### **PLA worldview and foreign policymaking**

The era when China's foreign policy could be controlled and managed by a small group of leaders and officials in the foreign ministry is long gone. After



four decades of reform and opening up, China's ever deepening integration into the international economy and its growing economic links with the world have significantly expanded the foreign policy issues Beijing has to consider. At the same time, there is a growing number of new actors who have interests in foreign policy formulation and are increasingly also participants in the policy-making process.<sup>32</sup> This multiple-actor, multiple-issue, and divergent-interest phenomenon means that increasingly, foreign policy agenda items are complex, competing, and even conflicting. However, despite these developments, Chinese foreign policymaking processes remain stove-piped, and far from streamlined. The recent efforts at streamlining the process with the establishment of the National Security Commission and the conversion of the former Foreign Affairs Small Leading Group to an expanded Foreign Affairs Commission of the CPC Central Committee clearly have been driven by such considerations. The challenge will be how to develop an inter-agency consultation process including the PLA, and establishing a procedure for arriving at foreign policy decisions that are binding on all stakeholders, including the military establishment. Given China's political system and its hierarchical structure, this will be difficult but imperative. The current system is under increasing pressure to respond to contingent and emergency situations.<sup>33</sup>

### ***Chairman Xi takes command***

Without a doubt, the Xi Administration comes into office at a time of unprecedented expansion of Chinese economic activities; greater Chinese participation in international and regional institutions; and a growing and a much more professionalized foreign service corps. Moreover, as much as China's greater economic footprint facilitates its economic growth, overseas activities expose Chinese citizens and business interests to volatile international environments and demand greater policy coordination in response to emergency situations such as major disasters, insurgencies and military coups, as well as other contingencies.<sup>34</sup> Likewise, China's greater role in international and regional affairs requires policy formulation based on both strategic visions and policy execution entailing multiple players. While the former seems to be in place, the latter is increasingly betraying signs of strain, at times tarnishing China's image and undermining the effectiveness of its foreign policy.<sup>35</sup>

The new Chinese leadership's major task has been to establish an effective foreign and national security chain of command and minimize, if not completely eliminate, discord in its policy implementation. One entails the development of centralized policymaking; the other involves civil-military relations where PLA behavior and actions are being subordinated to the party-state's central coordinating body.<sup>36</sup> In the first instance, the question is less whether such a coordinating body exists or not, but more about its power and ability to enforce decisions. At the highest level, there has been major party and government restructuring right after the 13th National People's Congress. The recently established CNSC and the Foreign Affairs Commission, both headed by Xi Jinping,

are a step in the right direction but remain opaque in structure, membership, and their relationships to other party and government apparatuses. How they will operate, let alone their overall effectiveness on policy coordination, are yet to be seen. At best, these newly minted commissions could be given the power to act as centralized policy implementation bodies, capable of overruling policy preferences of its constituents including powerful actors such as the PLA.<sup>37</sup>

This then leads to the issue of who except the CMC can control the PLA and bring it in line with the stated Chinese foreign policy guidelines, rather than in contradiction to it.<sup>38</sup> Past incidents involving China's military have had major foreign policy repercussions, such as the EP-3 collision (2001) and the *Impeccable* incident (2009). The more recent 2015 episode involving PLA Air Force (PLAAF) fighter aircraft allegedly making dangerous maneuvers to intercept US spy planes near China's coast, despite the signing of a memorandum of understanding governing safety behavior in November 2014, raises serious questions. Either such actions were condoned by the highest Chinese leadership, which would be deeply troubling, or, as is the more likely scenario, that the PLA was acting autonomously, does not bode well for Beijing's image-building nor perceived inability to prevent the military from hijacking Chinese foreign policy.<sup>39</sup>

While this raises important questions about civil-military relations in the Chinese context,<sup>40</sup> one clear major development is how Xi Jinping, through his resolve and perseverance since the 18th Party Congress, partly prompted by his ambitious plans of turning the PLA into a more effective professional military that can fight and win wars, but perhaps equally if not more than driven by his determination to fight against corruption and factions loyal to his opponents. Indeed, the anti-corruption campaigns over the past five years have seen the downfalls of two former CMC vice chairs, several CMC members, and several dozens of general officers, who have been removed, purged, and some prosecuted. The 19th Party Congress has effectively consolidated Xi's hold on the military as its commander-in-chief, with the appointments of his protégés to key PLA positions. There has been greater emphasis on the party's absolute control over the military and the imposition of strict disciplinary measures against any deviation.<sup>41</sup> Xi also has introduced major reforms in the PLA organizational structure by replacing the formerly powerful four general headquarters with 15 functional departments, commissions, and offices under the direct control of the CMC and the system of CMC chairman responsibility. The seven military regions have been restructured into five war zones, further streamlining command and control, and promoting jointness.<sup>42</sup> Whether Xi is now able to bring the PLA under civilian oversight should provide a gauge of his influence over the PLA and whether or not he finds it necessary to exercise that influence. Without doubt, he has demonstrated that he is a much stronger leader than his immediate predecessors, with the recent announcement to cut 300,000 troops and major restructuring of military organizations indicating Xi's determination to reinforce party control over the PLA as well as to better prepare the PLA for modern warfare.<sup>43</sup>

There is no question that the PLA remains a key player in China's national security policymaking. China's growing power and the new historic missions

that the CCP has assigned to the PLA enable the latter to have a greater say on national issues as well as request and receive resources for its modernization. In recent years, the PLA has achieved major milestones and breakthroughs. These include new weapons systems, including the launch of its first aircraft carrier, advanced fighter aircraft and surface battle ships, and ballistic and cruise missiles; better and more realistic training and joint exercises with foreign militaries; and dispatches of escort fleets to the Gulf of Aden that provide real-time experiences of blue-water naval operations.<sup>44</sup> The PLA's role in national security policymaking is particularly important and has the most influential impact on issues relating to Taiwan, Sino-US relations, and territorial disputes in the ECS and SCS.<sup>45</sup> However, this should not be construed as either a lack of civilian oversight over the gun, or a major discordance in civil-military relations. The PLA, in addition to substantive increases in annual defense budgets, has been given the autonomy to develop its professionalism and enhance its war-fighting capabilities. In return, the military publicly expresses its support of the civilian leadership's key policy positions and offers professional advice on how best to protect China's national interests. Nevertheless, from time to time, there appear to be different voices and gaps between the central leadership's foreign policy objectives at the strategic level and the military's execution at the operational level. However, it is not clear whether such discordance, especially where the PLA is directly involved, is a reflection of different interpretations of the policy in question, stove-piping in Chinese bureaucracy, or outright disobedience by the military, as some Western observers would infer.<sup>46</sup>

### *The PLA and party-military relations*

Recent scholarship seems to suggest that the PLA holds a predominantly hawkish view of the US, and that this has resulted in the Chinese military seeking to influence China's foreign and security toward a more hard-line approach. According to some analyses, the PLA has persistently viewed the US as a major threat to China, with such attitude hardened by US arms sales to Taiwan, Washington's consolidation and expansion of its security ties with its Asian allies, and its ostensibly neutral but in effect biased positions against China on regional security issues. For instance, Washington encourages the other clamant states to push multilateral solutions to the territorial disputes in the SCS, or internationalizes the issue at multilateral forums such the Shangri-La Dialogue, and publically announces that the US-Japan security agreement covers disputed territories such as Senkaku/Diaoyu under Japanese administration.<sup>47</sup> This has not only been reflected in the opinion pieces and analyses of the PLA's well-known soldier-scholars or retired generals, but also expressed by serving ranking officers at such forums as the Shangri-La dialogues.<sup>48</sup> The other indicator of the PLA's growing influence is the more frequent and public displays of its prowess through military exercises, power projection capabilities, and major weapons procurement, including lately, its first domestically manufactured carrier.<sup>49</sup> However, as some analysts have pointed out, the more hawkish voices

among PLA commentators, such as the retired Major General Luo Yuan, may represent no more than their own perspective, and indeed, on very rare occasions, have senior serving PLA officers at the CMC level reportedly made statements that could be construed as conveying different positions from those held by the party center.<sup>50</sup>

The PLA's professional worldview can be inferred from statements and writings in the media, popular and professional publications relating to important international and regional issues; their observations of broader and specific military–technological developments; and discussions of doctrinal and tactical issues. These views are expressed by top PLA leaders, ranking officers, and PLA academia. On broader foreign and security policy issues, the PLA typically expresses unity in line with the positions and policies of the party–state. Studies of foreign military developments and trends provide a glimpse into the PLA's professional assessments of the potential impact of the new security environments on China and on how the military can best mitigate those changes. Finally, discussions of doctrinal and tactical issues reveal ongoing debates on the military's future procurement priorities, doctrinal adjustments and training practices.

It is expected that top PLA Generals faithfully follow the party line. Their public statements both reflect and emphasize the strategic visions espoused by the top civilian leadership, and elaborate how the military can best fulfil its historical missions in support of Beijing's foreign policy agendas and priorities. A few examples illustrate this point. General Qi Jianguo, deputy chief of staff of the PLA, reiterated President Xi's assessment of the changing international strategic environment, especially where China can and should play a role in facilitating the emergence of a multipolar world, and focuses on the “five speed-ups” (加速) in the new round of Revolution in Military Affairs: weapons systems, organization, command and control, military theory and renovation, and military logistics.<sup>51</sup> Speaking at the 6th Xiangshan Forum in October 2015 – China's equivalent of the Shangri-La Dialogue – CMC vice chairman, General Fan Changlong, emphasized the peaceful means to resolving territorial disputes and pledged that Beijing would “never recklessly resort to the use of force, even on issues bearing on sovereignty.”<sup>52</sup> PLA Navy (PLAN) Political Commissar Admiral Miao Hua, now Director of the Political Works Department and a newly minted CMC member, commenting on the recent PLA organizational reforms, stressed that the PLAN must closely follow and truthfully implement chairman Xi's directive and use the opportunity to turn the PLAN into a first-rate fighting force.<sup>53</sup> Lt General Liu Yuejun, commander of the Eastern Theater Command, wrote that China must be able and willing to employ military forces in peacetime to deter and repel, when necessary, any challenges to, as well as protect and advance, the nation's core interests. Proper use of military force during peacetime also allows the PLA to combine training with real-world exercise, enhancing the military's overall capabilities. However, Liu also emphasized that any use of force must be subordinate to and serve broader national goals, and follows national guidelines.<sup>54</sup>

This is also the case with most published works by PLA analysts. For instance, while demonstrating China's irrefutable sovereignty claims over the

Spratly islands from both legal and historical angles, they also emphasize the principles of shelving disputes and seeking joint development, positions proposed by Deng Xiaoping decades ago and reiterated by Xi Jinping at a recent Politburo study session.<sup>55</sup> A series of articles published in *Wide Angle*, a news magazine associated with the PLA, provide a balanced and cool-headed analysis on why forming a military alliance with Russia would not advance Chinese interests, even though both countries have significant issues with the United States and perceive themselves as facing serious threats by the latter at times.<sup>56</sup>

It is no surprise that writings by Chinese military analysts also reflect the PLA's institutional interests, provide its professional assessment of the security environments at the international and regional levels, and suggest policy recommendations in support of the country's foreign policy objectives. These relate to the importance of building a strong military as an essential element of China's rise; greater civil-military integration to enhance the Chinese defense industry's capacity to meet the PLA's equipping requirements; and the need for extending PLA presence overseas for UN peacekeeping operations and protecting Chinese interests, including setting up military bases. A recent study by the Academy of Military Science (AMS) Research Group on Strategic Issues reviews how, historically, the military factor has been critical in the rise and failure of great powers and what lessons China could draw from them. Defense expenditure, military buildup and the importance of advanced military technology, the use of military force in pursuit of foreign policy objectives, and alliances are all deemed crucial in determining whether rising powers succeed in achieving their goals. China's rise requires that the PLA become a first-rate military to safeguard Chinese national interests through deterrence against foreign threats and by winning modern warfare in local and informationized environments.<sup>57</sup>

Clearly, the building of world-class armed forces by major powers requires sizeable resources in terms of defense expenditure. PLA analysts argue that since the early 1980s economic reforms, China's defense spending has not kept up with the rate of economic growth, despite that in absolute terms, it has sustained double-digit increases over almost two decades since the early 1990s. At about 1.3 percent of GDP, China's defense spending is much lower than the 2.3–2.5 percent global average. The overall force level and total defense expenditure notwithstanding, they argue that the PLA also falls well behind the world's other advanced militaries, and that there are huge gaps between theory and practices in modern warfare, between missions required of the PLA and its ability to operationalize them, and between China's perceived military power and the fact that it has had no real-world combat experiences in the past three decades.<sup>58</sup> However, given that it is unrealistic to expect defense spending to rise (in GDP percentage terms) to a level matching China's great power status, meeting the PLA's requirements, or even closing in the level of what the US spends on defense (currently over 3 percent of GDP),<sup>59</sup> better defense resource management and effective civil-military integration – especially in the areas of research and development (R&D) in new weapons systems – have in recent years become a policy priority for both China's civilian and military leaders.<sup>60</sup>

Understandably, PLAN and PLAAF affiliated analysts emphasize how their respective services are becoming more crucial in fulfilling its new missions. For instance, the 18th CCP Congress called for building China into a strong maritime power. Rear Admiral Duan Zhaoxian, PLAN deputy chief of staff, in an article published in the AMS *Chinese Military Science* elaborated on the essential elements of being and becoming a strong maritime power by developing a strong navy, along with maritime law enforcement and maritime strategic support. These capabilities would not only enable China to exercise rights over its vast maritime territories but also aid its recovery of islands and features. This maritime power should include the right to national unification; sovereignty over maritime seas and islands; control over maritime seas under one's jurisdiction; freedom of navigation in international waters and through important straits; and dominating the discourse on maritime matters.<sup>61</sup> PLAN analysts point out that the major external security challenges China faces come from the sea, including territorial disputes, growing dependence on SLOCs for international trade, and energy and key commodity imports; thus it is imperative that China resolutely safeguards its maritime interests and rights by balancing several important relationships between: rights and stability; sovereignty and joint development; peaceful and non-peaceful means; as well as legal and pragmatic approaches. These call for more resources to build up maritime defense capabilities, including gaining access to overseas facilities and even naval bases to protect Chinese interests, and projecting China's naval power beyond its near seas.<sup>62</sup> At the 2012 National People's Congress session, retired PLAN Rear Admiral Yin Zhuo argued that China's military capabilities must "follow" wherever Chinese interests are in order to assert and protect China's maritime rights and commercial interests. Yin considered such overseas expansion as legitimate and well within China's long-held active defense posture.<sup>63</sup>

Overall, there is no conclusive evidence to suggest that the PLA seeks to impose its own view on its civilian master, even on issues critical to its parochial interests. Granted, from time to time, PLA behavior seems to suggest that civilian control has not always been effective. Still, such instances are few and far between, and may be attributed to the strength or weakness of individual civilian leaders and their style of leadership in effecting civilian control. Some of the more infamous examples of overt PLA autonomy include the anti-satellite and J-20 tests in 2007 and 2011 respectively. But these are more likely to have been the result of the tests being conducted in accordance with strict schedules set in planning, or a lack of coordination between the various actors involved in national security policymaking – rather than open defiance on the part of the military to publicly embarrass the top civilian leadership.<sup>64</sup>

The PLA's direct influence over policymaking is also affected by its position within the organizational structure of China's regime. Following the retirement of Admiral Liu Huaqing from the elite Politburo Standing Committee in 1997, no ranking PLA officer has ever sat in the CCP's supreme decision-making body. Nevertheless, PLA participation in important national security and foreign policy decision-making is reflected in its representation in several key leading



small groups such as Foreign Affairs, National Security, and Taiwan Affairs.<sup>65</sup> With the latest reorganization of the PLA command structure, President Xi is clearly seeking to consolidate his control of the military. At the same time, given Xi's previous experience serving as the secretary to China's defense minister in the early 1980s, one could argue that he would be in a better position to both understand and empathize with PLA positions, while demanding that the military follows the party line.<sup>66</sup>

### *PLA views on regional security and modern warfare*

PLA analyses of regional security, especially in Northeast Asia, focus on developments on the Korean Peninsula and Japan's evolving security policy. Understandably, there is significant interest in security in the Korean Peninsula and the PLA has reportedly sought to influence China's North Korea policy. However, its ability to affect the policy process is at best not clear, and at worse, not that great. Given Beijing's overall North Korean policy is to maintain stability over everything else, PLA analysts, apart from emphasizing Pyongyang's strategic importance to China – therefore hinting that it should not desert the former – would not openly advocate a different approach.<sup>67</sup> That said, the PLA has on occasions expressed views and made positions publicly that can give the impression that it is trying to influence policy. One instance relates to the very strong statement made by General Ma Xiaotian, at the time a PLA deputy chief of staff, in response to US–South Korea joint military exercises in the aftermath of the *Cheonan* incident and the North Korean shelling of a South Korean island.<sup>68</sup> PLA analysts, including retired PLA generals, have engaged in public debates on whether North Korea remains a strategic buffer for China; or whether Beijing should adopt a new approach in its relationship with Pyongyang, including public opposition against North Korean actions that harm Chinese national interests. However, while PLA commentaries provide hints of what the Chinese military thinks, it is not clear if they are indicative of major policy shifts given that such views are expressed by personnel who are not directly involved in policymaking.<sup>69</sup> Moreover, they reject the view that China has not done enough to rein in North Korean nuclear and missile activities and suggest instability on the peninsula is largely due to the legacy of the Cold War and that US strategic actions are an attempt at regime change, which stokes fear and insecurity in Pyongyang.<sup>70</sup> Finally, PLA analysts are highly critical of the deployment of the Terminal High Altitude Area Defence (THAAD) in South Korea in response to Pyongyang's missile threats. They have raised serious security concerns about the deployment, arguing that its long-range tracking radar could be used to spy on Chinese military activities and potentially pose a direct threat to China's second-strike capabilities.<sup>71</sup>

Likewise, PLA analyses of Japan's evolving security policy are overwhelmingly negative. The Abe government has recently adopted legislation that essentially bypasses the peace constitution, especially Article 9, which renounces “war as a sovereign right of the nation and the threat or use of force as a means



of settling international disputes.” The new security law would, for the time since World War II, allow the Japanese Self-Defense Forces (JSDF) to exercise the right to collective self-defense to come to the aid of an ally. In addition, Tokyo has set up its national security council and lifted its ban on arms exports with the issuance of the Three Principles on Defense Equipment and Technology in April 2014.<sup>72</sup> Indeed, PLA analysts accuse Tokyo of interfering in the SCS territorial disputes by forming closer security ties with the Philippines and Vietnam. Finally, the US and Japan are seeking to strengthen their anti-submarine warfare (ASW) capabilities by deploying new systems such as ASW helicopters. Japan’s Ministry of Defense has already decided to replace its older fleet of helicopters with new ones by 2022.<sup>73</sup>

While generally in line with Beijing’s overall assessment of the international and regional security environments, PLA analysts pay more attention to developments in the Indo-Pacific regional context that could affect China’s security interests. Of particular concerns are the US rebalance to Asia; potential US access to a number of vital naval bases along China’s periphery that could become major obstacles to the PLAN’s efforts to break the first island chain; and growing US rhetoric about the SCS disputes and its increasing naval and aerial activities such as its freedom of navigation patrols.<sup>74</sup> At the same time, these analyses point out that the 2015 National Military Strategy of the United States differentiates the challenges it faces (revisionist states and violent extremist organizations) and seeks to develop a stable military relationship with the PLA, with a view to further isolating Russia. However, China clearly features prominently in the US maritime strategy. While the 2014 US Quadrennial Defense Review adopts a positive tone regarding China during a period of austerity in defense spending and emerging security challenges, the US has nonetheless committed to devoting greater resources to its sea services to meet the emerging challenges in the Indo-Pacific region, with a focus on anti-access and aerial denial (A2/AD) threats posed by its potential adversaries. Nevertheless, PLA analysts recognize uncertainties in the US rebalance, in view of the deficits inherent in the US economy to spend on defense, which in turn could affect the objectives set out in its rebalancing strategy.<sup>75</sup> But with the Trump Administration’s willingness to spend more on the defense to restore US military primacy, and to make America great again, PLA analysts begin to reassess the implications for China’s security, not least because the increase in US defense budget, along with the 2017 *National Security Strategy* (NSS), the *Nuclear Posture Review*, and the *US Military Strategy*, both released in early 2018, are clearly driven by the changing US strategic priorities from anti-terrorism to great-power rivalry, especially the perceived Sino-Russian challenges to US pre-eminence.<sup>76</sup>

PLA analyses also focus on US weapons production and procurement as well as broader global military trends and developments. For instance, while the 2010 Nuclear Posture Review states that the US will reduce its reliance on nuclear weapons and only use them only under extreme circumstances or in defense of allies, Washington nevertheless continues to devote extraordinary amounts of

resources to modernize its strategic nuclear arsenal. In addition, the Pentagon has released documents emphasizing the importance of developing the defensive and offensive use of US space and cyberspace capabilities.<sup>77</sup> In that regard, PLA analysts readily recognize the indispensable role of cyber in modern warfare and concede that the US maintains unsurpassed information dominance. Science and technology will determine if and how China would fight and win informationized wars in the future.<sup>78</sup>

Chinese analysts recognize that as much as future conflicts tend to be local and limited in scope, the nature of high-tech war has introduced important “non-local” elements. The advent of electronic and space warfare and long-range weaponry will play an increasingly important role not just in the limited key arena of operations, but can be extended to strike enemy positions and test a country’s overall military might. Such a phenomenon reflects the fact that the operationalization of local, limited warfare increasingly involves the concentration of firepower and rapid mobilization of troops to quickly destroy the enemy and therefore alter the balance of power. Another is the use of electronic warfare for “soft” combat purposes to paralyse the enemy’s reconnaissance, communications, command and control systems, which on most occasions are located away from the theater of operations.<sup>79</sup>

Indeed, the changing nature of modern warfare has both necessitated and informed significant changes in the PLA’s order of battle, and continues to provide guidance for future modernization efforts. As a result, army building over the past two decades has focused on making preparation for military struggle, which requires adjustments in the doctrines, procurement priorities, command and control, and training of all the services of the PLA. Increasingly, emphasis has also been placed on developing and implementing joint war-fighting capabilities.<sup>80</sup> The 2013 edition of *The Science of Military Strategy* summarizes the key characteristics of modern warfare, including medium to long-range precision-strike capabilities, system of systems, cyber/information dominance and identifies the likely military conflict/war scenarios China could face. Emphasizing the PLA’s unique operational modes, the so-called three “non”s – non-symmetrical (asymmetrical), non-linear, and non-contact war-fighting – the treatise advocates continued adherence to the strategy of asymmetrical war-fighting but places a greater emphasis on taking the initiative in its overall strategy of active defense. The PLA’s appreciation of the disparity between itself and its more powerful opponent, the US military, is also acknowledged in China’s latest Defense White Paper.<sup>81</sup> Indeed, according to General Chang Wanquan, the PLA has yet to complete the mechanization phase and has barely started development of its informationization capabilities, leading thus to a significant gap between the PLA and the world’s more advanced militaries.<sup>82</sup>

In sum, while PLA analyses understandably place greater emphasis on recent developments in the Indo-Pacific region, and how these developments could pose serious security challenges to China, one could argue that the Chinese military’s professional worldview does not deviate significantly from Beijing’s declared foreign and security policy positions, let alone challenge them. In fact,

some PLA analysts have argued that in the post-Cold War era, the emerging maritime strategic balance provides opportunities for the US and Chinese navies to cooperate in a number of areas. While competition between the two powers does indeed exist, trade and deepening dependence on sea-borne commerce, and recognition of the need to develop maritime norms of governance may encourage Beijing and Washington to cooperate on transport safety, port security, and jointly countering maritime piracy, illicit trafficking, and natural disasters.<sup>83</sup>

### **New type of great power relationship and the Sino–US military-to-military ties**

As the most important bilateral relationship in the world, how the PLA eyes the US constitutes an important part of our reading of the PLA's worldview.<sup>84</sup> In contrast to the significant progress over the past four decades where Washington's engagement policy has clearly shown substantive results in encouraging China to be a more responsible international stakeholder, the one area that demands greater care in this volatile period of power transition is the development of stable military-to-military ties between the Pentagon and the PLA.<sup>85</sup> Sino–US military relations have evolved much over the past 36 years since former Chinese Defense Minister Geng Biao's visit to the United States and US Defense Secretary Harold Brown's trip to China, both in 1980. Over the years, slow progress has been achieved, amid occasional major setbacks, including the June 4 incident and periodic breakdowns in exchanges following US arms sales to Taiwan.<sup>86</sup> Likewise, the recent period (2000–2015) has witnessed the continuation of military exchanges that have improved mutual trust between the two militaries. Toward that end, a number of institutionalized mechanisms, including the following, have made that possible:

- high-level exchanges between defense ministers and military officials;
- official dialogues such as the Military Maritime Consultative Agreement (MMCA), annual Defense Consultation Talks (DCTs), the Strategic Security Dialogue (SSD) under the rubric of the US–China Strategic and Economic Dialogue (S&ED) and more recently, the Diplomatic Security Dialogue under the Trump Administration;<sup>87</sup>
- functional exchanges, including port visits, military educational programs (exchanges between the national defense universities, war and staff colleges, logistics and military medicine institutions);
- cooperation in non-traditional security areas such as anti-piracy, search and rescue, and humanitarian assistance and disaster relief (HADR); and
- confidence-building measures such as the Code for Unplanned Encounters at Sea signed in November 2014,<sup>88</sup> and bilateral joint military exercises.

For the first time, the PLA participated in the 2014 Rim of the Pacific (RIMPAC) multinational naval exercises and was invited back for 2016. At the same time, the PLA's top soldier, General Fan Changlong, also visited the US in June 2015

and elaborated on the need to promote “mutual trust, cooperation, non-conflict, and sustainability” as the rubrics of a new type of military-to-military relationship with the US.<sup>89</sup>

For Beijing, the scope and depth of military exchanges to a large extent reflects the overall bilateral political relationship; when the latter is strong, it provides a conducive environment for expanding military contacts. Increasingly, Chinese analysts discuss a new Sino–US military relationship within the broader context of the major-power relations Xi Jinping had proposed to President Obama at Sunnylands, California, in 2013. The language used describes the Chinese objectives of “avoiding conflicts, managing crises, and seeking cooperation.”<sup>90</sup> Conversely, fluctuations in the bilateral relationship have inevitably led to setbacks in military exchanges, which are sometimes curtailed or suspended to register protest,<sup>91</sup> express disapproval, or simply as a means of retaliation against what Beijing considers as US actions that are detrimental to Chinese core interests. In addition, Chinese military leaders often use the occasions of bilateral dialogues to engage their US counterparts on issues such as the latter’s arms sales to Taiwan,<sup>92</sup> US military reconnaissance activities close to China’s aerial and maritime territories, and US restrictions on defense–technological exchanges. The former two gravely threaten China’s core national interests, while the third more critically reflects American strategic distrust. Beijing takes a top-down approach to managing bilateral military ties, i.e., strategic agreement on major issues serve as pre-conditions and provide guidelines for specific military cooperation, not the other way around. Increasingly however, the PLA recognizes the importance of the institutionalization of bilateral military exchanges vis-à-vis the more than 90 existing official channels of communication between the two countries.<sup>93</sup>

From Beijing’s perspective, the impediments to the development of a solid bilateral military relationship are structural. Chinese uncertainty about the general state of bilateral relations at the politico–strategic level precludes a well-developed military-to-military relationship, as was suggested earlier in this chapter. In other words, as long as the US continues to view China as a strategic competitor, a deepening of the relationship cannot be effected. The annual Department of Defense (DoD) reports on Chinese military capabilities, the Quadrennial Defense Review (QDR), and the American pivot all present China as a potential challenger to American interests. Similarly, Washington continues to maintain bans on military sales to China.<sup>94</sup>

Indeed, Sino–US military relations continue to be hampered by strategic distrust, divergent interests and priorities, and most of all, US arms sales to Taiwan. As mentioned before, the PLA has suspended bilateral military ties in protest, including cancelation of high-level visits. US critics of the bilateral military exchanges argue that the process has yielded next to nothing on the expected results – from transparency of China’s military modernization programs, to enhanced mutual understanding and genuine cooperation at the operational level. Some decry the practice as engaging for the sake of engagement while others suggest the futility of the exercise given the diametric goals that the two

militaries set for their bilateral exchanges. Indeed, many would argue that few, if any, of the stated objectives by US defense officials have been achieved.<sup>95</sup> From the PLA's perspective, on the other hand, unless and until the US removes the three obstacles (i.e., US arms sales to Taiwan, frequent US reconnaissance by its naval ships and aircraft in China's exclusive economic zones, and the restrictions imposed by the US government on exchanges and technical cooperation between the Chinese and US armed forces), and as long as bilateral military ties are not based on the principles of mutual respect and equality, a new type of military relationship cannot fully materialize.<sup>96</sup>

While China and the US have managed to maintain or repair bilateral military relations after major setbacks, they have yet to resolve their core differences. Thus behind pledges of commitment toward building a healthy, stable relationship lie deep rifts over a number of issues. For China, these pertain to US arms sales to Taiwan, Chinese concerns over US strategic intentions in the Asia-Pacific and its objection to US missile defenses. The US, on the other hand, continues to question the lack of transparency in China's defense modernization, Chinese military threats against Taiwan and growing assertiveness in its territorial disputes with neighboring countries, its development of A2/AD capabilities that threaten US forward military deployment, as well as harassment of US ships in the SCS, which poses a direct challenge to the US' long-held principle of freedom of navigation. Incidents could ensue, with serious consequences for both countries. Clearly, before a more stable bilateral military relationship can develop, longer-term strategies that emphasize engagement, exchange, and better understanding of each other's interests, priorities, and policy options must be formulated. Particularly important will be increased exchanges between the two militaries at the officer corps level where both sides are of increasingly similar educational and professional profiles. While developments in the past two years have been encouraging, challenges remain, however.<sup>97</sup>

Apart from the state of their bilateral relationship, US-China military contacts are also influenced by regional and global geostrategic developments pertaining to security alliances and partnerships. For instance, the closer ties forged between New Delhi and Washington since Narendra Modi came to power in 2014 has been the subject of growing discussion and analyses in Chinese military publications. Of particular note is their deepening bilateral defense cooperation where India has not only become the largest market for US arms sales (\$1.9 billion in 2013), but also benefited from technology transfers. The PLA perceives the rationale behind such heightened security cooperation as reflecting US intentions to strategically encircle China.<sup>98</sup>

Nevertheless, Chinese analysts increasingly acknowledge that, in the Indo-Pacific region, the PLA and its American counterpart share common interests in non-traditional security areas such as anti-piracy escorts, anti-terrorism and peacekeeping operations. However, skepticisms exist among Chinese analysts whether mutual trust as a precondition for the development of a new type of military-to-military relationship and broader bilateral political relations can ever be fostered. Indeed, there is a widely-held perception that given the dearth of

mutual strategic trust, moving bilateral military relations forward will be an immense challenge. On the other hand, some Chinese analysts believe that cooperation, even if limited and based on the lack of mutual trust, can and must serve to improve it, not the other way round. Specific measures include crisis management measures; confidence-building mechanisms (CBMs); as well as dialogues and interactions at multiple levels.<sup>99</sup>

In fact, some PLA analysts argue that in the post-Cold War era, the emerging maritime strategic balance provides opportunities for the US and Chinese navies to cooperate in a number of areas. While competition does exist and could even intensify, both countries' dependence on sea-borne commerce, and recognition of the need to develop maritime governance allow Beijing and Washington to seek cooperation in transport safety, port security, and joint responses to maritime piracy, illicit trafficking, and natural disasters.<sup>100</sup> While the two militaries have benefited from a stable relationship in recent decades avoided major conflicts, there remain other areas where they can collaborate further such as in HADR, anti-piracy efforts and multilateral security dialogues to enhance military CBMs.<sup>101</sup>

Growing US-China military diplomacy over the past three decades constitutes as an emerging – albeit a most important – aspect of China's evolving foreign policy. Exchanges between the two militaries include not only high-level visits, but also naval port calls, educational exchanges, joint military exercises (albeit primarily in the non-traditional security areas such as search and rescue, and HADR), military sales and joint defense R&D (in the 1980s but have been suspended since 1989),<sup>102</sup> peacekeeping operations, among others. By supporting China's overall foreign policy agendas by demonstrating its resolve and capabilities in defending Chinese national interests, the PLA also facilitates greater transparency, enhances confidence building, as well as fosters cooperation with other militaries by providing international public goods.<sup>103</sup> Despite these interactions between Chinese military personnel and their foreign counterparts having raised the possibility that the CCP's political control over the PLA could be compromised, the bulk of such exposure is restricted to selected middle-ranking officers who have limited responsibility over operational matters, and PLA scholars who primarily work on analyses of foreign militaries.<sup>104</sup>

Deep structural constraints will continue to impose limitations on both the scope and the pace of bilateral military ties. Indeed, while Beijing and Washington have managed to expand areas of contact and maintain or repair bilateral military relations after major setbacks, they have yet to resolve their core differences. Thus, beneath pledges of cooperation and building a healthy, stable relationship lie deep rifts over a number of issues, including US arms sales to Taiwan and, more recently, the Taiwan Travel Act that President Trump has signed into law, a major provocation; Chinese concerns over US strategic intentions in the Indo-Pacific; and China's growing assertiveness in its territorial disputes with neighboring countries, among others.



## Conclusion

The PLA's professional worldview reflects the general foreign and security policy assessment and near- to medium-term strategic goals determined by China's civilian leadership. Where differences can be identified, they are largely a function of the responsibilities the PLA carries as a professional military, in that it tends to view the world under a cautious, realist lens. While in large measure toeing the line of peace and development as the general trend in international politics, the PLA nonetheless pays more attention to global and regional military developments, especially where these directly affect its abilities to perform the sacred duties it has been assigned: protecting Chinese core interests, which increasingly extend beyond China's periphery, safeguarding overseas interests, and projecting power afar. Concurrently, it has become ever more engaged in military diplomacy to support the narrative of China's peaceful rise, and promote its image as a responsible global stakeholder, while fostering ties with other militaries. From its anti-piracy naval escort missions to participation in UN peacekeeping operations, the PLA's involvement in public and military diplomacy is part and parcel of a broader Chinese foreign policy agenda of cultivating a peaceful external environment for the purpose of facilitating stable economic development at home.<sup>105</sup>

However, as an interest group, the PLA clearly seeks to influence policy where it can, and not purely for the purpose of prevailing in bureaucratic battles with other actors in the political system. First and foremost, the PLA provides its professional assessments on issues critical to the nation's security.<sup>106</sup> At the strategic level, PLA interests remain subordinate to the overall policy line of peace and development. But the bifurcation of civil-military relations – in which the PLA has been given significant leeway to manage its professional development in exchange for its allegiance to the party and non-interference in domestic politics – has at times given the impression of a military is beyond civilian control. To be sure, occasional low-level, operational deviation notwithstanding, the broad consensus remains that the PLA follows, rather than contradicts, its civilian leaders in almost all important national security matters. Since the 18th Party Congress, Xi Jinping has further consolidated his hold on the PLA and imposed strict party control over the military.

China's growing economic and military power is changing the geostrategic landscapes in the Indo-Pacific region in important ways. With China's rising power comes increasing assertiveness in its foreign policy behavior, including a much firmer position on territorial issues, and more public denunciations of US-led alliances, in what Beijing characterizes as "a cold war mentality."<sup>107</sup> For the development of a more stable bilateral military relationship between China and the US – as well as the PLA's other foreign counterparts – longer-term strategies that emphasize engagement, exchange, and better understanding of each other's interests and priorities must be formulated. For the PLA it is essential that military contact be maintained even when Beijing experiences difficulties in its relations with other countries. Indeed, to avoid military conflicts as tensions rise



in the South and East China Seas, the PLA has as much responsibility as the US military in managing bilateral differences and averting actions that could result in incidents and escalation.

Sino-US military contacts have been and will remain an important barometer of not only the overall bilateral relations between the world's two major powers but also the PLA's compliance with Chinese foreign policy. Clearly, the Chinese military is given an outlet to voice its perspective and preference on issues crucial to its institutional interests. The PLA's influence becomes greater when the civilian leadership is weak, or over issues where its professional views carry the strongest credentials.<sup>108</sup> However, the scope and extent of such influence will remain highly selective and limited, especially with a strong leader such as Xi in command of China's military.

## Notes

- 1 For a recent study, see Saunders and Scobell 2015.
- 2 Andrew Scobell points out that "the PLA does not articulate an ideology of its own such as corporatism or military nationalism." Scobell 2018, 11.
- 3 Ross and Bekkevold 2016.
- 4 Saunders 2014, 147–172; Cook 2015, 105–131.
- 5 Hayton 2014; Erickson and Wuthnow 2016.
- 6 Bland 2016; Dolven et al. 2015.
- 7 Schofield 2016.
- 8 Beech 2016.
- 9 Smith 2013.
- 10 Liff and Erickson 2017.
- 11 Arai, Goto, and Wang 2013; Weiss 2014.
- 12 An interesting and short analysis can be found in Ott 2016.
- 13 Wang Fa'eng 2015.
- 14 Yang 2015.
- 15 Liu 2016b.
- 16 Luo 2014. Such has been publicly reaffirmed on numerous occasions by senior US officials under the Obama Administration.
- 17 Li Yan 2015.
- 18 Zhang 2015a. The US also partially lifted its arms ban on Vietnam and during Carter's June 2015 visit to Hanoi, pledged to extend loan credits too Vietnam to purchase maritime patrol boats.
- 19 Liu 2016a; Fang 2016.
- 20 Wang 2015; Jia 2015; Shao 2015.
- 21 Tang, Li, and Fang 2013; Zhou and Fu 2015.
- 22 Zhao 2016; Wang and Xiangsui 2015; Wang Tao 2015.
- 23 Fang 2018; Hu 2018.
- 24 Ren 2013; Jakobson 2014, 13.
- 25 Swaine 2012; Jakobson 2015.
- 26 Zhang 2017.
- 27 Fravel 2008.
- 28 Zhou 2015; Hou 2017.
- 29 Wang 2011; Huang 2012; Zhang and Zuonong 2015.
- 30 Ju and Song 2011.
- 31 Blackwill and Campbell 2016.
- 32 Zhang 2016.

- 33 Lampton 2001; Jakobson and Knoz 2010.
- 34 Duchâtel, Bräuner, and Zhou 2014.
- 35 Xue 2017.
- 36 You 2016a.
- 37 Lampton 2015; Swaine 2015, Li 2014. On the newly established National Security Commission, see Hu 2016, Erickson and Liff 2016; and You 2016b.
- 38 Li 2010.
- 39 Reuters 2015.
- 40 Scobell 2018.
- 41 Cheng 2018; Li 2017; Cooper III 2018; Li 2018.
- 42 Chase and Engstrom 2016; Wuthnow and Saunders 2017; Cooper III 2018.
- 43 Garnaut 2013; Cheung 2015; Saunders and Wuthnow 2016; Wuthnow and Saunders 2017.
- 44 These developments have been described in studies undertaken by the US National Defense University's National Institute of Strategic Studies, Center for Naval Analyses, US Army War College's Strategic Studies Institute, Congressional Research Service, and the National Bureau of Asian Research, including, Tellis and Tanner 2012, Scobell et al. 2015.
- 45 Michael Swaine's 1998 study on the Chinese military's role in national security policymaking remains the classic in this regard. A regular and timely analysis is provided by James Mulvenon in his quarterly analysis of the PLA in the Hoover Institute's *China Leadership Monitor*.
- 46 You 2014. Former US Defense Secretary Robert Gates recalls an incident where a flight-test of the J-20 stealth jet had taken place but then CMC chairman, Chinese President Hu Jintao, appeared unaware of this. Page and Barnes, 2011.
- 47 Fu and Wang 2017; Hu 2015b.
- 48 Liu and Ren 2014; Gao Yan 2015c.
- 49 Erickson and Strange 2013; Erickson and Collins 2013; Buckley 2017.
- 50 Chubb 2013.
- 51 Qi 2013. On PLA analysis of the latest RMA developments, see Li, Yu, and Zhang 2013.
- 52 Agence France-Presse 2015.
- 53 Xinhua 2016.
- 54 Liu Yuejun 2013.
- 55 AMS Study Group 2015; Wen 2015.
- 56 Gao Yan 2015a, 2015b. See also, Fu 2016.
- 57 AMS 2016; Liu and Han 2016.
- 58 Wang and Jiang 2016; Wang 2016.
- 59 Wang and Jiang 2016.
- 60 *Zhongguo junshe kexue* (*Chinese Military Science*), a top PLA journal published by the Academy of Military Sciences, has in recent years set aside dedicated sections on the discussion of civil-military integration.
- 61 Duan 2013; Ma 2015.
- 62 Li Dong 2016; Wu 2017; Xie 2013; Hu and Hu 2015; Yu 2015b; Bo and Yan 2016.
- 63 Huang 2012.
- 64 Li Nan 2015.
- 65 Miller 2015.
- 66 Wuthnow and Saunders 2017; Jun 2016; Gao Yan 2016.
- 67 Scobell 2015.
- 68 Huang 2010.
- 69 Beauchamp-Mustafaga 2016.
- 70 Wang Hongguang 2014; Wang Haiyun 2013; Dong 2016.
- 71 Ni and Cui 2016.
- 72 Wei et al. 2016.

- 73 Zhang 2015b; Hu 2015a; Li 2016.
- 74 Liao Shining 2015; Hu 2015b; Wang Xiangsui 2015; Xi, Dong, and Xu 2015; Li Yurong 2015; Liu 2015.
- 75 Xie Suming 2015; Liao Kai 2015; Xu and Zhang 2015; Chu 2014; Qian and Zhuang 2015.
- 76 Gao 2018; Yi and Xie 2018; Zhao 2018.
- 77 He and Dai 2015; Fei 2015; Xie 2016.
- 78 Fang 2015. See also, Lanteigne 2015, Chapter 5.
- 79 Newmyer 2010.
- 80 Mulvenon and Finkelstein 2005.
- 81 Shou et al. 2013; The State Council Information Office of the People's Public of China 2015.
- 82 Chang 2014.
- 83 Yang and Fang 2015. Granted, this remains a minority view.
- 84 Kan 2014; Harold 2013; Zhang 2014, 211–230. One of the most fragile aspects of Sino–US ties concerns their bilateral military interactions.
- 85 Lu 2014.
- 86 CCTV.
- 87 US Department of State 2017. [www.state.gov/secretary/remarks/2017/06/272103.htm](http://www.state.gov/secretary/remarks/2017/06/272103.htm).
- 88 Yang 2009.
- 89 Jin and Wang 2015; Zhong 2015. Former US Defense Secretary Ashton Carter was also scheduled to visit China later that same year, but subsequently postponed his trip amid growing tensions in the SCS. Lubold and Page 2016.
- 90 Zhang Fang 2014, 185.
- 91 Capaccio and Gienger 2010; Hille 2011.
- 92 Wang Tao 2010; Zhang Fang 2014, 218. In recent years, PLA analysts have called for imposing sanctions on American companies involved in US arms sales to Taiwan.
- 93 Finkelstein 2010; Zhang Fang 2014, 225–228.
- 94 Chu 2014.
- 95 Campbell and Weitz 2005–2006; Hooper 2006; Cheng 2011.
- 96 *South China Morning Post* 2014;.
- 97 The National Bureau of Asian Research 2015.
- 98 Wang Tao 2015.
- 99 Zhang 2016, 21–24.
- 100 Yang and Fang 2015. Granted, this remains a minority view.
- 101 Kamphausen with Drun 2016.
- 102 Hua 2015; Bokhari and Lamont 2011.
- 103 Wang 2013; Sun 2015.
- 104 Huaxia Wenzhai 2001; Xiao 2014. Despite its growing professionalization, the regime's political control over the military remains solid, and every CCP General Secretary has considered absolute party control of the military a cardinal principle to ensure political reliability. For a further discussion, see Shambaugh 1991 and You 2006.
- 105 Allen, Saunders, and Chen 2017.
- 106 Garver 1996.
- 107 Chou and Lu 2014.
- 108 For example, one could expect the PLA's assessment of the US Joint Concept for Access and Maneuvre in the Global Commons (JAM–GC) to carry significant weight in Chinese national security deliberations since it could potentially threaten and neutralize Chinese A2/AD capabilities. See also Saunders and Scobell's introduction in *PLA Influence*.

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## 6 Space, the new domain

### Space operations and Chinese military reforms

*Kevin Pollpeter*

The Third Plenum of the 18th Party Congress held in November 2013 ushered in a new era of reform for China. Normally devoted to economic policy, the Plenum promised a series of military reforms intended to make the People's Liberation Army (PLA) better suited to fighting modern war. These included organizational reforms designed to streamline the armed forces and foster joint operations, an emphasis on "new type operational forces" better suited to fight information technology-based wars, and revised strategic guidance that identifies new directions and domains of military conflict.

This chapter examines the role of outer space in Chinese military operations in light of these potential reforms. It argues that space plays a critical role in China's military strategy and reforms by enabling long-range precision strikes through a space-based C4ISR network and through the denial of space-derived capabilities to its adversaries. It also argues that official Chinese policy and authoritative Chinese military writings have raised the profile of space and counterspace operations within Chinese military strategy. Indeed, former President Hu Jintao in his work report at the 18th Party Congress in November 2012 urged the PLA to "attach great importance to maritime, space and cyberspace security."<sup>1</sup>

In conducting this examination, the chapter uses a framework developed by CNA Corps.'s David Finkelstein that identifies six likely "baskets" of military reforms. For the purposes of this chapter, I will focus on three: adjustment of the national military strategy, development of "new type operational forces," and organizational changes.<sup>2</sup> Finkelstein argues that the objective of these reforms is to "enhance the PLA's capacity to conduct joint operations, with special emphasis on the maritime-aerospace domains and other high-tech battle-spaces."<sup>3</sup> The chapter uses three main sources that have been published since 2013: the 2015 defense white paper *China's Military Strategy*, the 2013 *Science of Military Strategy* (战略学), and the 2013 *Textbook for the Study of Space Operations* (空间作战学教程), hereafter referred to as *Study of Space Operations*.

The chapter finds that the PLA has identified outer space as a new domain that must be fought for and seized if the PLA is to win future wars and establish an organization to command space forces. This official placing of outer space in China's military strategy may result in the development of a separate space



doctrine. Space thus now plays a more central role in China's plans to project power far from its shores and in its abilities to defeat high-tech adversaries, especially the US military. As such, outer space is an important component of the PLA's military reforms announced at the November 2013 Third Plenum.

### **Adjustment of national military strategic guidelines**

The "Decisions" of the Third Plenum tasked the PLA with "perfecting" (*wanshai*) strategic guidance. Although no announcements of changes to the strategic guidance have been made public, Finkelstein writes that this reform is potentially the most significant as strategic guidance "informs China's defense posture, force deployments, contingency planning, and plans for force modernization."<sup>4</sup> As such, the PLA's strategic guidance is dependent on the party's assessment of the world situation and the threats it faces. Taylor Fravel notes that the "two most likely sources of change" are the identification of new threats to China's national security and an assessment that the "the form of war ... has undergone an important shift."<sup>5</sup>

Both of these changes are evident in the 2015 defense white paper, *China's Military Strategy*. According to the white paper, the military continues to view the world with trepidation. Although it sees factors for peace as increasing, it maintains that "new threats from hegemonism, power politics and neo-interventionism" have emerged and that "international competition for the redistribution of power, rights and interests is tending to intensify." It concludes that "the world still faces both immediate and potential threats of local wars." One important threat facing China is the increasing speed of the revolution in military affairs that presents "new and severe challenges to China's military security."

This unsettled view of the world situation is brought about by an expansion of threats to China's interests. According to the white paper, "In the new circumstances, the national security issues facing China encompass far more subjects, extend over a greater range, and cover a longer time span than at any time in the country's history." To deal with these expanding security issues, the military must be able to "safeguard China's security and interests in new domains," be able to deal with "a wide variety of emergencies and military threats" and "prepare for military struggle in all directions and domains." One of these new domains is outer space.

The white paper calls outer space "a commanding height in international strategic competition" and states that "threats from such new security domains as outer space and cyber space will be dealt with to maintain the common security of the world community." In making these assessments, the 2015 defense white paper appears to be based on Chinese military writings on space since 2000 and more recently in writings published by the Academy of Military Science, the military's top think tank. Chinese researchers writing on space characterize China as a country committed to the peaceful use of space that follows a defensive policy,<sup>6</sup> but view the United States as improving its advantage in space and as a global hegemon bent on achieving absolute security.<sup>7</sup> Chinese analysts argue

that a unipolar world is inherently unstable in that it encourages a hegemon to maximize its own power with little concern for the interests of other states. In this worldview, the United States is not only seen as little concerned with the interests of other countries, but also as seeking to contain China and suppress its rise as a political, economic, and military power.<sup>8</sup> As a consequence, Chinese analysts must balance US military superiority, in part, by developing counter-space weapons in order to counter the excesses of the United States and protect China's interests.<sup>9</sup>

Chinese writers make the oft-repeated statement that “whoever controls space will control the Earth” and that outer space is the new high ground of military operations. They note that the center of gravity in military operations has transitioned from the sea to the air and is now transitioning to space.<sup>10</sup> According to *Study of Space Operations*, “Whoever is the strongman of military space will be the ruler of the battlefield; whoever has the advantage of space has the power of the initiative; having ‘space’ support enables victory, lacking ‘space’ ensures defeat.”<sup>11</sup> The authors of the *Science of Military Strategy*, similarly conclude that space is the new high ground and that without space superiority one is at a disadvantage in all other domains.<sup>12</sup>

In fact, the authors of the 2013 *Science of Military Strategy* elevate space operations to one of nine “main operational activities” along with information operations, joint strike operations, air and missile defense, air and sea blockades, island seizure operations, area denial operations, border defense operations, and cyber operations. They also include it as one of five major military deterrent threats the PLA faces, along with nuclear, conventional, cyber, and nuclear–conventional threats.<sup>13</sup> *Science of Military Strategy* then goes on to recommend that the PLA must adapt to the “new forms of warfare and to the characteristics of new operational domains” and “closely track the world’s strong powers in the development of military technologies, weapons and equipment, operational forces, and strike methods” by developing unmanned aerial vehicles, counter-stealth and cruise missile technologies, aircraft carrier strike units, counterspace platforms as well as tactics for countering intelligence, surveillance, and reconnaissance (ISR), precision strike, cyber attack, space weapons, and other new attack methods.<sup>14</sup> Given the wide-range of rapid strike methods, “especially space and cyber attack and defense methods,” the authors of *Science of Military Strategy* argue that China must prepare for an enemy to attack from all domains.<sup>15</sup> It predicts that future wars may begin in outer space and cyberspace and states that “achieving space superiority and cyber superiority are critical for achieving overall superiority and being victorious over an enemy.”<sup>16</sup>

### Development of “new type operational forces”

The conclusion of the 2015 defense white paper – that the speed of the “revolution in military affairs” (RMA) is increasing – appears to serve as an impetus for another basket of reforms: the development of “new type operational forces.” “New type operational forces” are “key assets or units which are characterized

by cutting-edge technologies and are deemed essential for prosecuting modern campaigns. Examples would be the use of cyber space, outer space, the electromagnetic spectrum, ISR assets, and precision-guided munitions.”<sup>17</sup> Finkelstein notes that these capabilities have been at the heart of PLA strategy since the early 2000s when the PLA was tasked to fight what was previously called “local war under informatized conditions” but is now more simply called “informatized wars.” This new formulation is said to be a recognition that the use of information and its denial to adversaries is now the dominant factor in determining a war’s outcome.<sup>18</sup> According to Chinese sources, the ability to collect, process, and transmit information as well as deny those capabilities to an adversary are essential factors for success on the modern battlefield and the precondition for achieving supremacy in the air, at sea, and on the ground.<sup>19</sup>

The 2015 defense white paper states that the PLA will fight informatized wars using a concept called system vs. system (SvS) operations. SvS operations are intended to “accelerate operational response times to enhance firepower and maneuver, particularly by shortening and streamlining decision-making and sensor-to-shooter times to get inside an opponent’s decision cycle.” It will also “enable units to operate with greater independence in dispersed deployment in a nonlinear battlespace; yet synchronize operations within a centralized command structure with some allowance for initiative.”<sup>20</sup> SvS operations rely “on information systems ... to unify and optimize force groupings, provide real-time information sharing and precision control of combat operations.”<sup>21</sup> To carry out SvS operations, the PLA is required to make “advances in communications, satellite navigation, and reconnaissance capabilities that enable greater sharing of information, situational awareness, and a flatter command structure.”<sup>22</sup>

Informatized operations also place an emphasis on denying an adversary the use of its information systems. In this respect a central component of China’s strategy is to conduct asymmetric strikes against an opponent by targeting critical command, control, communications, computing, intelligence, surveillance, and reconnaissance (C4ISR) nodes whose debilitation or destruction would have decisive effects. Indeed, whereas Western analysts view the PLA’s asymmetric strategy as a result of their relative weakness against the US military, researchers at China’s Academic of Military Sciences (AMS) argue that SvS operations are fundamentally asymmetric and that the critical factor determining the outcome of future wars will not so much be the overall capabilities of the respective opponents as the nature of their weaknesses and the ability of an opponent to exploit them. As a result, no matter whether the opponents are unevenly or equally matched, asymmetric operations will play a central role in future wars between adversaries armed with advanced weaponry.<sup>23</sup>

### **Space as a component of information-based system-of-system operations**

According to Chinese sources, the goal of space operations is to achieve space superiority (*zhitianquan*), defined as “ensuring one’s ability to fully use

space while at the same time limiting, weakening, and destroying an adversary's space forces."<sup>24</sup> Space operations play an inherent role in the PLA's ability to conduct asymmetric strategy in two ways: by enabling long-range precision strikes against land, air, and naval targets and in denying adversaries the use of their own space assets. PLA analysts describe space-based C4ISR systems as a critical part of a modern military sensor-to-shooter network. These analysts assert that space is the ultimate high ground and that whoever controls space controls the Earth.<sup>25</sup> Explicit in these arguments is that space has become so vital to fighting modern war that no military could do without it. At the same time, Chinese military analysts regard space as a great vulnerability that if denied, can so debilitate an enemy that victory can be achieved.<sup>26</sup>

The requirement to build a robust space-based C4ISR network is based on the PLA's development of long-range precision-strike capabilities such as long-range cruise missiles and ballistic missiles that requires the ability to locate, track, and target enemy installations and ships hundreds of kilometers from Chinese territory, as well as the ability to coordinate forces from multiple services in joint operations against these targets. Space-based C4ISR supports these operations through the application of reconnaissance, meteorology, missile early warning, communication, and navigation capabilities that can help monitor the activities of potential adversaries, enable communication between friendly units, and provide positioning, navigation, and timing data.

Counterspace operations, on the other hand, are intended to deny, degrade, disable, or destroy an opposing side's space capabilities. This can include attacks against ground-based and space-based space assets through the use of kinetic and non-kinetic means. Counterspace operations not only include offensive and defensive operations in space against an adversary's space forces, but also air, ground, and naval operations against space assets.<sup>27</sup> Although strategic writings indicate a cautious approach to space warfare,<sup>28</sup> writings on the operational level of war suggest a predilection for strong offensive actions at the beginning of a conflict. The authors of the *Study of Space Operations*, for example, conclude that China will "do all it can at the *strategic* level to avoid firing the first shot" (emphasis added),<sup>29</sup> but recommend that China should "strive to attack first at the campaign and tactical levels in order to maintain the space battlefield initiative"<sup>30</sup> and that the PLA should "conceal the concentration of its forces and make a decisive large-scale first strike."<sup>31</sup>

## China's space-based C4ISR capabilities

China's modernization of its space-based C4ISR capabilities can be seen in the rapid development of its space program since 2000. China has made remarkable progress in space-based remote sensing capabilities and by 2020 plans to establish a "high-resolution Earth observation system" capable of stable all-weather, 24-hour, multi-spectral, various-resolution observation. Since 2000, China has launched five new types of remote sensing satellites: the Yaogan, Gaofen, Huanjing, Haiyang, and Jilin series of satellites. As of February 2016, China had more

*Table 6.1* Selected Chinese remote sensing satellites<sup>32</sup>

| <i>Satellite</i> | <i>Payloads</i>       | <i>Resolutions</i>                             | <i>Number launched (as of February 2016)</i> |
|------------------|-----------------------|------------------------------------------------|----------------------------------------------|
| Yaogan           | EO, SAR, ELINT        | EO = 1 m, SAR = 1.5 m                          | 29                                           |
| Gaofen           | EO, Staring camera    | EO = <1 m–2 m, 800 m;<br>Staring camera = 50 m | 5                                            |
| Haiyang          | EO and color scanners | EO = 250 m                                     | 3                                            |
| Huanjing         | EO                    | 30 m                                           | 3                                            |
| Jilin            | EO                    | 0.72 m                                         | 4                                            |

than 50 remote sensing satellites in orbit equipped with a variety of sensor types with differing capabilities. These include electro-optical (EO) sensors for remote sensing during daylight and moderate weather conditions and synthetic aperture radar (SAR) for observations at night or during inclement weather. China's remote sensing satellites also feature a variety of resolutions from sub-meter for discrete imagery to 800 meters for imaging broad swaths of territory. China also has a number of satellites equipped with electronic intelligence (ELINT) payloads to collect electronic transmissions.

Linking these satellites together are three data relay satellites called Tianlian (Sky Link/Tianlian). Without these communication satellites, China's remote sensing satellites would have to fly within line of sight of a ground receiving station to send their images to Earth. With these satellites, China can now cover 100 percent of the globe, greatly increasing the timeliness of the delivery of China's space-based ISR data.

In addition to these remote sensing and communications satellites, China has also launched two satellite navigation and positioning constellations since 2000. The first constellation, Beidou-1, was established in 2007 and consisted of three satellites that covered a large portion of China and Asia. In 2011 China established a more advanced second satellite navigation and positioning constellation, Beidou-2 (Compass), that has replaced Beidou-1. As of March 2018, this 20+ satellite system provides coverage for China and most of Asia with a 5-meter accuracy and was originally planned to be expanded to a 35-satellite constellation to provide global coverage by 2020. According to the director of the China Satellite Navigation Office speaking in February 2016, however, China will launch 40 Beidou satellites by 2020 indicating a larger constellation.<sup>33</sup>

### **China's counterspace capabilities**

The second component of the PLA's goal to achieve space superiority is counterspace. Chinese analysts assess that the US military relies upon space for 70–90 percent of its intelligence<sup>34</sup> and 80 percent of its communications.<sup>35</sup> The reliance of the US military on space leads Chinese analysts to conclude that the loss of these capabilities could so debilitate the US military that it would be

unable to achieve victory.<sup>36</sup> Other Chinese analysts argue that counterspace capabilities can counter a potential US space-based missile defense system directed against China's ballistic missile nuclear deterrent,<sup>37</sup> defend Chinese satellites from attack, and prevent space-based attacks against terrestrial targets.<sup>38</sup> These missions can not only be conducted by intercepting enemy missiles and space-based weapons, but also by attacking the facilities that are the source of the attacks.

Chinese analysts discuss both kinetic and non-kinetic attacks. Many Chinese analysts prefer the use of non-kinetic attacks because their effects can be temporary and do not create debris. As a result, they are sometimes considered less escalatory and because they do not create debris they may be less observable and thus easier to conceal.<sup>39</sup> Non-kinetic weapons include directed energy weapons, jammers, and computer network operations.<sup>40</sup>

Kinetic weapons such as nuclear weapons, missiles, and co-orbital satellites, on the other hand, result in physical destruction.<sup>41</sup> As such, their effects are irreversible and can create debris. Despite the risk of debris, some Chinese analysts still consider kinetic attacks useful in certain instances when non-kinetic attacks are found unsuitable.<sup>42</sup>

According to the US Defense Department, China is developing a number of counterspace and counterspace-related technologies. These include direct ascent kinetic kill vehicles, co-orbital satellites, and directed energy weapons, and jammers.<sup>43</sup> In 2007, for example, a Chinese test of a direct ascent kinetic kill vehicle (KKV) destroyed a retired FY-1C meteorological satellite and created more than 3,400 pieces of debris.<sup>44</sup>

China continues to develop direct ascent counterspace technologies. In 2010 and 2013 China conducted mid-course tests of a missile defense system that have been widely regarded as having counterspace implications. In July 2014

*Table 6.2* Chinese counterspace operations and tests and tests with counterspace implications<sup>45</sup>

| <i>Year</i> | <i>Technology</i>                                                                                                |
|-------------|------------------------------------------------------------------------------------------------------------------|
| 2006        | Chinese laser paints US satellite, though intent of action is unknown                                            |
| 2007        | China destroys FY-1C meteorological satellite with direct-ascent KKV                                             |
| 2010        | China conducts mid-course ballistic missile defense test                                                         |
| 2010        | Two Shijian satellites involved in close proximity operation                                                     |
| 2012        | Cyber attack against Jet Propulsion Laboratory                                                                   |
| 2013        | China conducts mid-course ballistic missile defense test                                                         |
| 2013        | Three satellites involved in close proximity operation to test space debris removal and robotic arm technologies |
| 2013        | China conducts direct ascent KKV test to GEO                                                                     |
| 2014        | China conducts direct ascent KKV test                                                                            |
| 2014        | Cyber attack against National Oceanic and Atmospheric Administration                                             |
| 2015        | Missile intercept test                                                                                           |
| 2016        | Aolong-1 tested robotic arm to remove space debris                                                               |
| 2016        | Shijian-17 rendezvous with Chinasat-5A                                                                           |

China again conducted what it called a missile defense test. The US Defense Department, however, characterized the event as a non-debris-producing anti-satellite (ASAT) test<sup>46</sup> and assesses that development of this system continues.<sup>47</sup> In November 2015, China conducted an unacknowledged missile intercept test of an unknown type.<sup>48</sup>

In 2013 China conducted what it called a “high altitude science mission” with a sounding rocket that released a barium cloud at an altitude of more than 10,000 kilometers to study the Earth’s magnetosphere.<sup>49</sup> The US Defense Department, however, concluded that the launch was a test of a direct ascent counterspace technology and stated that the rocket “appeared to be on a ballistic trajectory nearly to geosynchronous Earth orbit (GEO)” and “was not consistent with traditional space-launch vehicles, ballistic missiles or sounding rocket launches used for scientific research.”<sup>50</sup> This test demonstrated an expansion of China’s counterspace capabilities to GEO and for the first time would allow China to threaten GPS and communication satellites with a direct ascent KKV.

China has also conducted a number of close-proximity operations between spacecraft that appear to have been tests of technologies for its human spaceflight program, but would also have counterspace implications.<sup>51</sup> In 2008 as part of the Shenzhou-7 human spaceflight mission, the Banxing-1 satellite (Banxing/BX-1/Companion Satellite) flew around the Shenzhou-7 space capsule taking images of the spacecraft.<sup>52</sup> In August 2010, in what may have been a test of docking procedures for the future Tiangong space station, a Shijian-12 (SJ-12) satellite likely bumped into the Shijian 6F (SJ-6F) satellite.<sup>53</sup> In an apparent test of robotic arm technologies for a future spaced station, in August 2013 China tested a robotic arm using a satellite equipped with a robotic arm to grapple a target satellite.<sup>54</sup>

A lesser-known aspect of China’s counterspace effort is its directed energy weapons program, which includes lasers, high-powered microwave, and particle beam weapons.<sup>55</sup> According to the US Defense Department, in 2006 China had “at least one ... ground-based laser designed to damage or blind imaging satellites,” but no further information has been release since then.<sup>56</sup> In 2006, China lased a US military reconnaissance satellite. The action temporarily blinded the satellite and caused no permanent damage, leading to speculation that China may not have been trying to intentionally interfere with the satellite.<sup>57</sup>

China may have also conducted computer network operations against US computer systems involved in space operations. According to NASA, in 2012 hackers traced to Chinese IP addresses gained “full access to key Jet Propulsion Laboratory [computer] systems and sensitive user accounts” and “full functional control over ... networks,”<sup>58</sup> although it is unclear whether the compromised networks were involved in the control of spacecraft. In November 2014 the National Oceanic and Atmospheric Administration (NOAA) reported that its agency’s networks had also been compromised. Although NOAA did not identify the perpetrator of the attack, Congressman Frank Wolf stated that NOAA had told him that China was behind the hack.<sup>59</sup> If accurate, the attack suggests preparation by the Chinese military to deny important meteorological forecasting data not only to the US military, but also to civil weather forecasting agencies.



China also has the ability to jam satellite communications and Global Positioning System (GPS) receivers.<sup>60</sup> The GPS signal, in particular, can be easily jammed<sup>61</sup> and even low-power jammers can be effective over distances of hundreds of kilometers.<sup>62</sup>

## Organizational reform

A third basket of reform is organizational change. On December 31, 2015, the PLA, in addition to establishing the ground force and rocket force as separate services, also established the Strategic Support Force (SSF/*zhanlue zhiyuan budui*). Described by Chinese President Xi Jinping as a “new type operational force to maintain national security” and “an important growth point” for the PLA’s “new quality operational capability,” the establishment of the SSF is a major step forward in the reform of the military organizational structure.<sup>63</sup> According to a Ministry of National Defense spokesperson, the SSF was founded to provide “strong strategic, foundational, and sustainment support to carry out the integration of capabilities.”<sup>64</sup>

The SSF is composed of space, cyber, and electronic warfare units and is intended to unify the efforts of the PLA at the strategic level in these domains.<sup>65</sup> Although the SSF is not formally regarded as a service, in many respects the SSF acts as an independent service in much the same way that the former Second Artillery Force acted as a service, even though it was formally an independent branch of the military.<sup>66</sup>

In this role, the SSF has taken over the space functions that were once the responsibility of the former General Armament Department (GAD). The SSF is composed of a space systems department (*hangtian xitong bu*)<sup>67</sup> to carry out the SSF’s space missions and a network systems department (*wangluo xitong bu*)<sup>68</sup> to carry out the SSF’s cyber and electronic warfare (EW) missions. Space-related units under the space systems department unit include China’s launch centers, satellite control centers, and its telemetry, tracking, and control network that were under the former GAD.

As a result, the creation of the SSF is the first attempt by the PLA to reorganize the military to make better use of space. In fact, for some time Chinese analysts have argued that China needed a single organization to oversee its space program. Prior to organizational reform, the former GAD, disbanded in January 2016 under a separate set of reforms, commanded China’s launch and satellite control centers and oversaw the development of launchers and satellites. The General Staff Department, also disbanded in January 2016, commanded the Beidou navigation satellite system through the China Satellite Navigation Office. Individual services also contributed to the space mission. The PLA Air Force (PLAAF) was responsible for missile defense while the former Second Artillery appeared to be responsible for direct ascent KKV missions and mobile launch. Finally, civilian stakeholders, such as the China National Meteorological Administration and the State Oceanographic Administration, provided requirements for satellites and may have even operated their own spacecraft.<sup>69</sup>

The numerous organizations involved in China's space program has led prominent leaders, including Ye Peijian, chief designer of China's first moon probe, and Qi Faren, former chief designer of the Shenzhou space capsule, to argue for a central organization to better coordinate the actions of its diverse members. Ye, for example, has stated that the space program's response to the 2008 Wenchuan earthquake was slowed due to the lack of coordination between the various agencies involved in China's space program.<sup>70</sup> The Chinese Academy of Sciences has also called for a central organization to command the space program. In its *Vision 2020: The Emerging Trends in Science and Technology and Strategic Option of China*, the Academy wrote:

In the area of space applications, China has launched a large quantity of application satellites, but because of separation between ministries, there is a lack of unified planning and coordination, data sharing rates are extremely low, and the phenomenon of redundant acquisition of the same or similar data is commonplace, creating low-level redundancy.<sup>71</sup>

In addition to these calls for a centralized command of space forces, services have also advocated for command of China's space enterprise. Despite the PLAAF having a minimal role in China's space program, PLAAF analysts have been the most vocal in arguing that their service should assume control of China's space program. Their arguments were based on the Air Force strategy of "integrated air and space, simultaneous offensive and defensive operations" (*kongtian yiti, gongfang jianbei*) that implied a major role for the PLAAF in outer space. Proponents of an "integrated air and space force" argued that although air and space are two separate domains with their own unique characteristics, the two domains will become technologically integrated through air power's use of space-based C4ISR capabilities and the eventual development of manned space planes that will pass through the atmosphere to intercept enemy spacecraft and conduct bombing missions.<sup>72</sup>

PLAAF analysts also wrote that their service was the best suited to command the military's space enterprise due to it being the most technical of all of the services.<sup>73</sup> They also argued that other militaries place the command of space forces with their air forces and that the PLAAF should be no different.<sup>74</sup> Perhaps recognizing the imbalance between the PLAAF's actual role in space operations and the aspirations of its analysts, the authors of the 2013 *Science of Military Strategy* see the role of the PLAAF as primarily a consumer of information derived from space-based C4ISR platforms, but foresee a potentially more substantial role for the PLAAF in the future with the development of space planes and airborne lasers.<sup>75</sup>

The Second Artillery, now the Rocket Force, was also involved in China's space program. In what appeared to be lobbying for a more prominent role for the Second Artillery in China's space program, the authors of the 2013 *Science of Military Strategy* wrote that the Second Artillery was inherently a space force. They argued that ballistic missile warheads travel through space to reach their

target and ballistic missiles can be used as direct ascent KKV's as well as to launch satellites into orbit.<sup>76</sup>

Nevertheless, much is still unknown about the SSF. Functions, like the direct ascent kinetic kill mission, would appear to be best executed by the Rocket Force, the ballistic missile force for the PLA. The PLA's commitment to its "integrated air and space warfare" mission through its missile defense units<sup>77</sup> and the development of an airborne rocket launch capability<sup>78</sup> would appear to continue PLA's role in space operations. Moreover, it is uncertain how the SSF interacts with operational commands. Press reports indicate that SSF units have been deployed at the operational and tactical levels, but the exact command and control relationships remain unclear.<sup>79</sup>

## Conclusions

Chinese military reforms are adapting the PLA to the requirements of modern war. In addition to the establishment of new services and the creation of joint theater command organizations, the PLA has taken a major step to better fight "informatized wars" with a new organization to command China's space forces. The formation of the SSF and the designation of outer space by the defense white paper as a new domain and a "commanding height of war" indicates that the role of space has achieved a prominent position in the Chinese concept of military operations. This new and official determination of the importance of space is based on the PLA's assessment that the United States is both increasing its lead over China in regards to space technologies and seeking to restrain China's rise by using space. The designation of outer space as a new domain would appear to not only result in an even higher prioritization for space technologies but would also require the development of a doctrine for the use of space capabilities.

The development of a space warfare doctrine would appear to have to be based on the requirement to fight and win informatized wars using the concept of IBSO. Under this concept, warfare is no longer one platform against another or even one system against another. It is instead a conflict between opposing system of systems in which space is a key enabler of long-range precision strikes and joint operations. Space, through counterspace capabilities, also acts as a key method for degrading an opponent's systems. Chinese writings stress achieving space superiority with strong strikes at the beginning of a conflict. Chinese technology developments indicate that the PLA is developing a wide-range of counterspace capabilities designed to attack every type of US satellite in all orbits using kinetic and non-kinetic means.

As a result, space plays a prominent role in China's efforts to establish a military capable of winning informatized wars through an asymmetric strategy directed at critical US military platforms. The Chinese use of space-based C4ISR to enable long-range strikes and the use of offensive space control measures to deny the acquisition of space-based C4ISR capabilities by an adversary, coupled with cyber and kinetic attacks against other C4ISR nodes, could delay the flow

of forces to the region by the US military and hinder the ability of US military forces already in the region to conduct operations effectively. This strategy could be even more effective when coupled with the PLA's predisposition to gaining the initiative at the beginning of a conflict. These capabilities when directed at less capable militaries would have an even more salient effect on overall military operations. As a result, China's military may now see space systems in the same way the US military regards its space systems: as "an integral – not adjunct, not supporting, not auxiliary" part of its military.<sup>80</sup>

The growing prominence of space in PLA operations also coincides with an apparent increase in emphasis on counterspace by the US military. In fact, both militaries appear to be taking a similar approach to enhancing space operations. The US military, for example, is also in the process of better defining its command and control relationships for space operations<sup>81</sup> and established a "Space Mission Force" to better deal with emerging threats in outer space.<sup>82</sup> The US military is also emphasizing space control<sup>83</sup> and in 2015 shifted \$5.5 billion over 5 years from other programs to better protect US satellites.<sup>84</sup> The PLA's emphasis on "system of system operations" also appears to be in line with US military thinking on space which emphasizes treating "all space assets, both classified and unclassified, as part of a single constellation."<sup>85</sup>

Unfortunately, this increased focus on space control by both countries raises the specter of a space arms race that could lead to destabilizing actions that escalate into military conflict. Both countries, for example, have an incentive to strike first in space during the initial stages of a conflict. In the case of the PLA, this is to achieve an asymmetric advantage against a superior US force in order to delay its entry and keep it away from the conflict zone. For the US military, the incentive is to defeat China's ability to locate, track, and target US bases and naval ships with long-range precision-strike platforms in order to create a permissive environment for US forces to operate within or close to the conflict zone.<sup>86</sup>

Finally, it should be remembered that China's development of space and counterspace technologies has been occurring for some time and that the description of space as a new domain with critical importance to military operations has been espoused by Chinese analysts since at least 2000. These researchers have long concluded that space "has become a deciding factor in future wars, that space will be a dominant battlefield, and that in order to achieve victory on Earth, one must first seize the initiative in space."<sup>87</sup> Official Chinese military pronouncements on space operations are thus an evolutionary rather than revolutionary step in its thinking on space. Nevertheless, the designation of outer space as a separate domain and the establishment of a unit to command space forces appears to signal that China's space capabilities have reached a level of sophistication warranting their full integration into Chinese war-fighting.

## Notes

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## 7 Innovation in China's defense technology base

### Foreign technology and military capabilities

*Tai Ming Cheung*

Since the dawn of the twenty-first century, the Chinese defense science, technology, and innovation system has engineered a remarkable turnaround in its fortunes. This progress was proudly on display at the grand military parade commemorating the 70th anniversary of China's victory over Japan in World War II in September 2015 and at the 90th anniversary of the People's Liberation Army's (PLA) founding in August 2017. New generations of state-of-the-art weapons systems were shown off from across virtually the entire defense-technological spectrum from aviation and ordnance to electronics and missiles.

What accounts for this revival of the Chinese defense industry? Structural reforms, increased investment, high-level leadership attention, a worsening threat environment, improved corporate performance, and the cultivation of a higher quality scientific workforce are some of the principal explanatory factors. But, as this chapter will argue, the role of external technology and knowledge transfers and the defense industry's improving ability to absorb these inputs and convert into localized output has had the biggest impact. China is pursuing an intensive campaign to obtain defense and dual-use civil-military foreign technology transfers using a wide variety of means. This ranges from spending heavily on importing large amounts of technologies and engaging in joint collaboration to the use of more nefarious means, such as industrial and cyber-espionage.

This chapter addresses a number of questions. How has China been able to exploit access to foreign defense and dual-use technologies and knowledge and how has the defense industry been able to assimilate these inputs? How successful have Chinese efforts at defense-technological re-innovation been, and how does this compare with and complement its longer-term efforts at original innovation? How, and to what extent do recent Chinese defense-technological innovations support the ability of the PLA to protect the country's expanding international interests? What are the challenges that confront the Chinese defense industry in its continuing efforts to modernize and support the PLA in its efforts to be able to fight and win future wars?

This chapter begins by offering an analytical framework to examine the relationship between technology transfers and China's defense innovation. The concept of absorptive capacity will be explored along with mapping the

imitation to innovation environment to provide the context and benchmarks in which to identify the Chinese defense industry's progress. Eight categories of imitation and innovation are defined in the typology beginning with duplicative imitation through to radical innovation. China has put forward its own three-step strategy to indigenous innovation: introduction, digestion, assimilation and re-innovation (IDAR), which is advanced imitation; integrated innovation; and original innovation. IDAR is currently the most relevant model guiding the Chinese defense industry's technology development and the chapter will examine this approach in detail. Two case studies of the painstaking and at times baffling acquisition of the British Spey Mk202 jet engine and the advanced imitation of the Russian Su-27 jet fighter will provide insights into China's military-technological development arc, the central role that foreign technology transfers play, and the difficult struggle with absorbing these capabilities. There will also be an analysis of the impact of this technology absorption by the Chinese defense industry on the enhancement of the PLA's force projection capabilities. Particular attention will be paid to the aviation, naval, and precision-strike sectors. The principal challenges facing the Chinese defense industry in its long-term goal of becoming a world-class original innovator will also be discussed and this will be followed by an examination of the efforts under Xi Jinping's rule to pivot from re-innovation to the pursuit of original homegrown innovation. The paper concludes by looking at the global implications of an increasingly innovative Chinese defense establishment, particularly focusing on intensifying US-China technological competition.

### **Analytical framework to examine the relationship between technology transfers and Chinese defense innovation**

The contemporary mainstream definition of innovation is the introduction of a novel product or process through invention and/or commercialization. But another important attribute of innovation that is overlooked is the combination of existing and/or new knowledge that results in an improved output. Joseph Schumpeter, one of the pioneers in the study of innovation, identified innovation as combining already available products and processes in a novel way that leads to new outcomes.<sup>1</sup> Bengt-Åke Lundvall also supports this notion of innovation as "a new use of pre-existing possibilities and components."<sup>2</sup>

This practice of combining foreign technology and knowledge with domestic capabilities that generates improvements and promotes national development is a well-proven roadmap for successful technological catching up that has been employed through the ages. This includes many states that have gone on to become advanced technology powers today. France and Prussia in the eighteenth and nineteenth centuries, for example, relied on imports of British industrial technology that they subsequently reverse engineered and incorporated in their industrialization drives.<sup>3</sup>

The successful technological catching up by Japan and South Korea between the 1950s and 1990s can also be attributed to their implementation of highly

effective industrial absorption and combination policies.<sup>4</sup> Of particular importance was the utilization of “know-how” contracts, in which Japanese and Korean firms signed agreements with foreign companies that allowed them access to manufacturing capabilities, personnel exchanges, and blueprints. This provided the knowledge and learning to engage in reverse engineering, which is a critical skill needed for catching up.

Reverse engineering is a widely accepted international practice as long as the products being copied are legitimately acquired.<sup>5</sup> This is the vital difference between the civilian and military spheres. Product access in the civilian domain is far more permissive than in the defense sector, where products are subject to tight export controls, especially against potential adversaries. For states that are barred from access to external military and sensitive technologies but are determined to acquire them, their only choices are to develop these capabilities by themselves, obtain these technologies through subterfuge, or to pursue both goals at the same time.

The Soviet Union stands out as the chief exponent of this parallel approach of indigenous development coupled with an extensive industrial espionage effort that was undertaken throughout the entire lifespan of the Soviet regime, and which also appears to have continued afterwards. As Katherine Sibley notes in a study of Soviet industrial espionage against the US in the 1930s and 1940s, “this effort materially supported the industrial and technological development of the Soviet Union, particularly in the area of aircraft and weapons technology, and vitally assisted the war effort.”<sup>6</sup>

Soviet industrial espionage efforts intensified in the post-1945 Cold War era, and especially in its final decades as the Soviet defense industry fell increasingly behind the technological arms race with the US and its Western allies. One of the biggest operations that the Soviets mounted to address this widening gap occurred between the early 1970s and early 1980s when Soviet agents successfully acquired huge amounts of Western defense technology. A 1985 CIA assessment, based on classified Soviet documents, described

a massive, well organized campaign by the Soviet Union to acquire Western technology illegally and legally for its weapons and military equipment projects ... Virtually every Soviet military research project – well over 4,000 each year in the late 1970s and over 5,000 in the early 1980s – benefits from these technical documents and hardware.<sup>7</sup>

The scale and intensity of the Soviet effort can be likened to the traditional industrial age espionage equivalent of China's present cyber-espionage campaign in the digital era.<sup>8</sup>

The CIA assessment judged that stolen Western technology could reduce the Soviet weapons research and development cycle by up to two years for research projects in an advanced stage of development. For projects in an earlier stage of research, the cycle could be lessened by as much as five years. The report concluded that, “this considerably shrinks overall research time, reduces the amount

of resources devoted to weapon systems research, and allows diversion of those resources to other Soviet military research projects.”<sup>9</sup>

The experiences of Japan, South Korea, and the Soviet Union have had a major influence in the thinking and making of contemporary Chinese national and defense–industrial and innovation strategies. Innovation as recombination is at the heart of how the Chinese authorities approach the pursuit of science, technology, and innovation in the twenty-first century. This is spelled out in the 2006–2020 Medium & Long Term Science and Technology Development Plan (MLP) that defines indigenous innovation as the promotion of original innovation by reassembling existing technologies in different ways to produce new breakthroughs and absorbing and upgrading imported technologies.<sup>10</sup> The parallel 2006–2020 Medium and Long-Term Defense Science and Technology Development Plan (MLDP) also refers to the importance of recombination by implementing policies and measures that support the importation, absorption, and re-innovation of foreign technology.<sup>11</sup>

To successfully combine foreign and domestic technologies, catch-up countries need to have an effective absorptive capacity, which refers to the ability of a country to recognize, assimilate, and utilize new and external knowledge.<sup>12</sup> Related but distinct from absorption is innovative capacity, which is the ability of a country to carry out original research and development that leads to the creation and commercialization of novel technology and knowledge. Innovative capacity primarily relies upon a country’s own national innovation system, which means that it needs to have a well-developed set of institutional arrangements and organizations ranging from universities and research institutes that engage in scientific research to governance regimes that incentivize and support the innovation process from discovery to commercialization.

While absorptive and innovation capacity are very different in nature, there is considerable overlap between them and they should be viewed as co-existing alongside each other rather than as opposing forces. The relative importance of absorptive and innovative capacity varies depending on the technological nature of a country. For catch-up countries, absorptive capacity is their principal science and technology capacity for technological development, while innovative capacity is dominant for countries on the innovation frontier. For countries like China that are transitioning from relying solely on imitation as the main means of technological development to also conducting original innovation, absorptive and innovative capacity are in a more balanced alignment.

### **The concept of absorptive capacity and the imitation to innovation typology**

A useful framework of analysis developed by Shaker Zahra and Gerard George views absorptive capacity as a dynamic capability embedded in a firm’s routines and processes, is geared toward effecting organizational change, and is strategic in nature as it defines a firm’s path of development and evolution.<sup>13</sup> While their focus is at the enterprise level, this can also be applied at the state level. They



observe that absorptive capacity has four dimensions that can be grouped into two categories:

- *Potential absorptive capacity* allows organizations to be receptive to the absorption of external sources of knowledge, but does not mean that they will be able to successfully exploit this knowledge. There are two key components of potential absorptive capacity: (1) *Acquisition* signifies the capability to identify and acquire externally generated knowledge that is critical to operations; and (2) *Assimilation* refers to the routines and processes that allow organizations to analyze, process, interpret, and understand the information obtained from external sources.
- *Realized absorptive capacity* is the ability of an organization to turn its potential absorptive capacity into actual output. There are two key attributes: (1) *Transformation* denotes a capability to develop and refine the routines that facilitate combining existing knowledge and the newly acquired and assimilated information; and (2) *Exploitation* allows organizations to refine, extend, and leverage existing competencies or to create new ones by incorporating acquired and transformed knowledge into its operations.

In applying the absorptive capacity concept to China's defense science and technology (S&T) system, it is important to recognize the fundamental differences in how the S&T process works in imitation- and innovation-oriented regimes. For imitative countries, research and development is either absent or plays a limited role depending on the degree of imitation that is practiced. There are three general categories of imitation:<sup>14</sup>

- *Duplicative imitation*: Products, usually obtained from foreign sources, are closely copied with little or no technological improvements. This is the starting point of industrial and technological development for latecomers. The process begins with the acquisition of foreign technology, which then goes directly into production with virtually no technology development or engineering and manufacturing development. The comparable Chinese concept for duplicative imitation is "introduction" (引进).
- *Creative imitation*: This represents a more sophisticated form of imitation that generates imitative products with new performance features. Domestic research input is relatively low, but is beginning to find its way into modest improvements in components or non-core areas. The development process becomes more robust with more work done in the technology development and engineering and manufacturing stages. The work here is primarily how to integrate domestic components into the dominant foreign platform.
- *Creative adaptation*: Products are inspired by existing foreign-derived technologies but can differ from them significantly. This can also be called advanced imitation. One of the primary forms of creative adaptation is reverse engineering. There is considerably more research conducted here than in the creative imitation stage, especially in product or concept refinement, and there

is also significantly more effort and work to combine higher levels of domestic content onto an existing foreign platform. The equivalent Chinese term for creative adaptation is “re-innovation” (再创新).

As catch-up countries become increasingly sophisticated in their ability to conduct advanced imitation activities, especially through the building up of homegrown research and development capabilities, they eventually transition into original innovation activity. This can be divided into five categories:

- *Crossover innovation*: This refers to products jointly developed by Chinese and foreign partners with significant technology and knowledge transfers to the local side that result in the creation of a research and development (R&D) base able to conduct independent and original innovation activities. However, there is still considerable reliance on foreign countries for technological and managerial input to ensure that projects come to fruition.
- *Incremental innovation*: This is the limited updating and improvement of existing indigenously developed systems and processes. Incremental innovation can be the gradual upgrading of a system through the introduction of improved sub-systems but it is also often the result of organizational and management inputs aimed at producing different versions of products tailored to different markets and users, rather than significant technological improvements through original research and development.
- *Architectural innovation*: This can be distinguished between product and process variants. Architectural product innovation refers to “innovations that change the way in which the components of a product are linked together, while leaving the core design concepts (and thus the basic knowledge underlying the components) untouched.”<sup>15</sup> Architectural process innovation refers to the redesign of production systems in an integrated approach (involving management, engineers, and workers as well as input from end-users) that significantly improves processes but does not usually result in radical product innovation. Japan between the 1950s and 1990s was a pioneer in architectural process innovation in which major Japanese companies “grew accustomed to the entire production process as a system and to thinking in an integrated way about product design and process design.”<sup>16</sup> This was especially the case in the automobile, shipbuilding, and home electronics sectors. The primary enablers are improvements in organizational, marketing, management, systems integration, and doctrinal processes and knowledge that are coupled with a deep understanding of market requirements and close-knit relationships between producers, suppliers, and users. As these are also the same factors responsible for driving incremental innovation, distinguishing between these different types of innovation poses a major analytical challenge. While many of these soft capabilities enabling architectural innovation may appear to be modest and unremarkable, they have the potential to cause significant, even discontinuous consequences through the reconfiguration of existing technologies in far more efficient and

competitive ways that challenge or overturn the dominance of established leaders.

- *Component or modular innovation*: This involves the development of new component technology that can be installed into existing system architecture. Modular innovation emphasizes hard innovation capabilities such as advanced R&D facilities, a cadre of experienced scientists and engineers, and large-scale investment outlays.
- *Radical innovation*: This requires major breakthroughs in both new component technology and architecture and only countries with broad-based, world-class R&D capabilities and personnel along with deep financial resources and a willingness to take risk can engage in this activity.

### **Chinese models of technology and innovation development**

In their pursuit of national and defense technology development, the Chinese authorities have put forward a three-step strategy that they label as “indigenous innovation.” The stated goal is for technological self-sufficiency, but this is a long-term aspiration that will take decades. The near- to medium-term reality of the next decade or more is of continuing heavy reliance on foreign sources for technology and knowledge, although combined with increasing levels of domestic input. The MLP offers an explanation of the three parts of this indigenous innovation approach:

- *Original innovation (Yuanshi Chuangxin 原始创新)*: This refers to scientific discovery and technological invention carried out by Chinese research institutions that eventually are successfully developed and commercialized. The meaning of original innovation appears to have expanded in recent years to include an emphasis on breakthrough innovation. Chinese Academy of Sciences President Bai Chunli pointed out in a 2013 article that China's priorities in the pursuit of original innovation in the basic sciences were in six areas: energy and natural resources, information and networking, advanced materials, manufacturing, agriculture, and health care.<sup>17</sup> Original innovation would correspond with the concept of radical innovation.
- *Integrated innovation (Jicheng Chuangxin 集成创新)*: This means the synthesis of related technologies and processes that facilitates the development of competitive products and industries. These technologies and processes can be both foreign and domestic. This concept appears to be based on the innovation experiences of Japanese companies such as Toyota and Sony that organized their research, development, design, production, marketing, and sales channels into an integrated process and which turned them into global innovation powerhouses. Integrated innovation has many of the same features as architectural process innovation.
- *Re-innovation (Zai Chuangxin 再创新)*: This model is based on the identification, acquisition, and absorption of foreign technologies and processes through a multi-stage sequence of introduction (*Yinjin* 引进), digestion

(*Xiaohua* 消化), and assimilation (*Xishou* 吸收) that leads to re-innovated (*Zaichuangxin* 再创新) output. This can be concisely referred to as the IDAR (Introduce–Digest–Assimilate–Re-innovate) strategy and would be similar to the concept of creative adaptation.<sup>18</sup>

Of these three approaches, IDAR is the most important and relevant to China's current S&T needs. The IDAR technology absorption strategy is most clearly articulated in a supplementary document to the MLP that calls for encouraging the introduction of advanced foreign technology that can be digested and absorbed for re-innovation.<sup>19</sup> The document, titled the "Opinions to Encourage Technology Transfer and Innovation and Promote the Transformation of the Growth Mode in Foreign Trade" was issued by a group of eight powerful government economic, financial, and planning agencies that included the National Development and Reform Commission, Ministry of Finance, and Ministry of Commerce.

The central goal of the "Opinions" is the building of a sophisticated advanced apparatus that brings in foreign technology transfers and allows for the effective

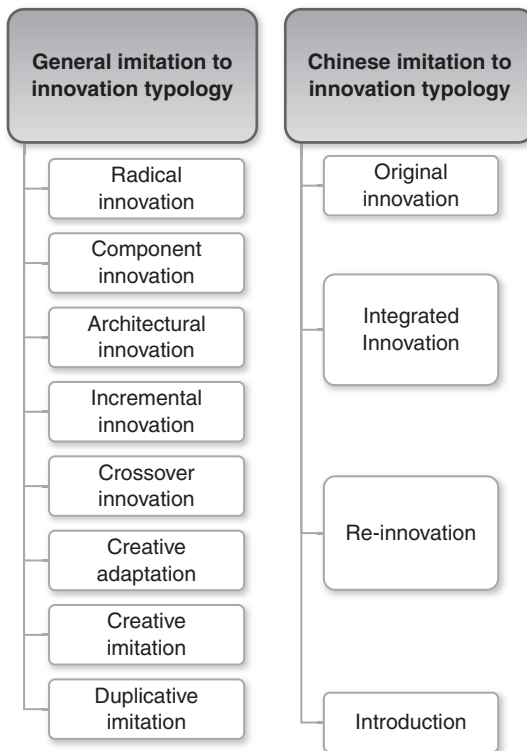


Figure 7.1 General imitation to innovation typology vs. China's official imitation to innovation typology.

absorption and re-innovation of products that China can effectively claim to be homegrown. A number of industrial sectors are highlighted that would benefit from this approach, including information communications technology, biotechnology, civilian aviation and aerospace, advanced materials, and machinery manufacturing.<sup>20</sup> Key initiatives that are emphasized include:

- actively seeking bilateral and multilateral technical cooperation;
- improve and expand open source international information services that can be disseminated to local actors;
- encourage and help firms to go abroad to gain access to foreign research and development knowledge;
- attract more multinational firms to set up R&D institutes and facilities in China.

### **The role of foreign technology and know-how on China defense technology development**

China's defense science and technology industry has been heavily reliant on foreign sources for its science and technology development. In the 1950s, the Soviet Union provided extensive transfers of defense and civilian technologies and knowledge, which played a pivotal role in China's industrialization.<sup>21</sup> The abrupt cut-off in Sino-Soviet relations in 1960 along with China's continuing isolation from the West in the 1960s and much of the 1970s seriously retarded national and defense-technological and industrial development.

While China invested heavily on foreign technology imports, its ability to absorb these technologies between the 1950s and 1990s was severely lacking. Long Guoqiang, a senior researcher in the Foreign Economic Relations Department of the State Council Development Research Center, has pointed out that, "China emphasizes the introduction of technology but does not pay attention to its absorption."<sup>22</sup> Applying this to the theoretical framework, China did have good potential absorptive capacity but did not adequately develop its realized absorptive capacity. Defense science and technology leaders were keenly aware of the importance of absorption, but making this happen in an industrial structure geared toward low-level forms of imitation would not be easy. Gen. Zhang Aiping, who was one of the principal architects in the building of China's armaments apparatus between the 1950s and 1980s, called the "digestion and absorption" of imported technologies a "force multiplier."<sup>23</sup>

The Chinese authorities only became serious in developing a credible absorption model from the end of the 1990s. Tsinghua political economist Hu Angang argues that it was not until after China's accession to the World Trade Organization in 2001 that this "greatly increased its ability to import foreign technology, fully utilizing its ability to re-innovate technology (including imported innovations, copied innovations, and integrated innovations)."<sup>24</sup> Chinese expenditures on the acquisition of foreign technology and in-house assimilation of technology shows state support for absorption grow gradually from the 1990s, although it

only picks up pace from the early to mid-2000s as science and technology development gains high-level attention.

### **From introduction to IDAR: the case study of the Spey Mk 202 jet engine**

The enormous struggle that the Chinese defense industry has had in successfully mastering absorption can be vividly illustrated with the case study of the Rolls Royce Spey Mk 202 jet engine. The Chinese aero-engine sector spent nearly three decades to acquire the engine and “re-innovate” it into a Chinese branded product known as the Qinling II, which is significantly longer than the time it takes for Western and Russian companies to develop a new generation of military aero-engines.<sup>25</sup>

The Spey Mk 202 is a second-generation engine that was developed in the 1960s and powered the British version of the F-4 Phantom. When the Xian Aero-Engine Co. (XAE) first approached Rolls Royce to purchase and locally assemble the engine in the early 1970s, the Spey was already around two decades old and coming toward the end of its service life.<sup>26</sup> The impending obsolescence of the Spey though did not concern the Chinese side, which was eager to seize the opportunity to acquire an engine technology that was a generation more advanced than what its domestic industry was able to produce.

This first effort by XAE to acquire the Spey and its production technology showed why the Chinese defense industry did not fully understand the critical steps required for successful absorption, especially the need for both potential and realized absorptive capacity. In the deal that was signed in 1975, XAE agreed to license produce the Spey. As part of this process, XAE acquired sophisticated lathes, milling and broaching machines, and new testing equipment. It also sent 400 engineers and workers to the UK for short-term training.<sup>27</sup> The Chinese side only agreed to assemble a small batch of ten engines, of which four would be produced from parts made by XAE and the remaining examples would be built from kits supplied by Rolls Royce. The primary aim of this agreement was to enable XAE to acquire the production capabilities to reverse engineer and manufacture the engines on their own.

While Chinese scientists and engineers were able to gain valuable insights into the Spey’s technology that could be used for their own indigenous R&D efforts, the tiny production run meant that little was learned on the actual process involved in building the engine. The Chinese side were also reluctant to share much of what they were doing with the British side. Rolls Royce technical experts that were sent to Xian to provide assistance were not allowed access to the production facilities and were instead visited at the hotels where they were staying by Chinese counterparts and asked questions. Rolls Royce technical advisers on the project were baffled by the Chinese approach and they pointed out that the serial production of aircraft engines were crucial to successfully assimilating the knowledge required in mastering this technology.<sup>28</sup> The Chinese side though believed that the procurement of a few

samples, which would be taken apart and examined in detail, would allow them to copy the engine.

Not surprising, the Chinese strategy was a major failure and XAE struggled to absorb the Spey technology without adequately investing in digestion and assimilation processes. The Chinese side approached Rolls Royce in 1980 and proposed a joint project to develop a new version of the Spey, but this was rejected by the British company because of the lack of commercial opportunities that would result from the upgrading of an obsolete design.

After another decade and a half of frustrating technological progress, the Chinese aviation authorities changed their approach in the second half of the 1990s and agreed to enter into a closer and more cooperative joint relationship with Rolls Royce with the focus on both technology process and product development. Coincidentally, this change in strategy occurred around the same time that the Chinese authorities began to shift from their failed introduction strategy and develop the more robust IDAR approach. A joint venture aero-engine factory was established in 1996 between XAE and Rolls Royce to produce engine components such as nozzle guide vanes and low-pressure turbine blades for civilian aircraft.<sup>29</sup> In 2001, Rolls Royce sold another 90 reconditioned Spey engines and spare parts to China to equip the JH-7 navalized combat aircraft<sup>30</sup> and also reportedly agreed to allow this engine to be built under license.<sup>31</sup> Two years after this reported agreement, China announced the certification of the WS-9 Qinling II engine and it finally went into serial production in the late 2000s.<sup>32</sup>

The long-running Spey saga was a harsh lesson for the Chinese aircraft engine industry, but it appears to have made important adjustments to its technology importation strategy as a result. Since the late 1990s, China has been actively engaged in procuring third-generation military jet engine technology and know-how from Russia. But instead of concentrating on reverse engineering activities, the focus has been on obtaining finished products for immediate operational utilization and at the same time pursuing negotiations to acquire technology transfers such as through license production and co-development projects. Since the beginning of this century, China has reportedly acquired large numbers of AL-31FN and Klimov RD-93 engines to equip its new models of fighter aircraft. In addition, the Russians agreed to build a facility that would allow the Chinese to repair and maintenance the AL-31 engines that also power its Su-27 and J-11 fighters.<sup>33</sup>

Perhaps the principal reason behind the failure of the engine industry's catch-up efforts was the lack of high-level leadership and institutional support. During the 1960s and 1970s, the overriding priority for the country's political, military and defense-industrial authorities was the development of strategic nuclear, space, and missile capabilities and this led to the diversion of resources from competing sectors such as the aviation industry. In addition, internal political upheavals resulting from the Cultural Revolution led to serious disruptions in the industry's development.

This absence of institutional support for the aviation and engine industries continued into the reform era, especially during the 1980s and the first half of



the 1990s with the sharp downturn in military budgets and the downsizing of the military and defense-industrial establishments. During this period, the government bureaucracy responsible for overseeing the aviation industry underwent a series of extensive restructurings that eventually led to its transformation into a state corporation. These reforms led to the gradual but steady decline erosion in the aviation industry's access and influence within key political and defense-industrial decision-making circles.

Another reason for the aero-engine industry's dismal absorption record was the lack of funding available to support assimilation activities. Investment funding for aero-engine research and development before the twenty-first century was a fraction of what was spent by advanced aero-engine powers. One typical case was the WP-6 turbojet, which was the principal jet engine used by the PLA Air Force's J-6 and Q-5 fighter aircraft from the 1960s to the 1980s. Total investment outlays over a 20-year period for the development of the engine was Rmb 150 million, which was just 5 percent for a comparable Western program.<sup>34</sup>

Excessive Chinese dependence on Soviet technology and knowledge transfers offers another explanation for the poor absorption record of the aero-engine industry. In the 1950s, the Soviets provided the technological know-how through design blueprints and manufacturing capabilities to China to license produce early second-generation jet engine models. The Chinese aero-engine industry though lacked a sufficiently large pool of well-trained and experienced scientists and engineers who were able to assimilate these transfers, although they were sending sizeable numbers of personnel to the Soviet Union and Eastern Europe for advanced training. The abrupt rupture in Sino-Soviet relations in 1960 meant that these long-term training efforts were halted in mid-stream.

Consequently, the aero-engine industry, as well as the rest of the aviation industry, struggled to absorb the treasure trove of Soviet technology transfers and could only succeed in making modest incremental modifications and upgrades.<sup>35</sup> The impact of this early breakdown in the building of a nascent absorptive capacity had long-term consequences. One article pointed out that the Chinese Academy of Engineering only had five aero-engine experts in 2010, most of whom were retired and passing from the scene.<sup>36</sup> The article noted that an advanced aero-engine industry needs the skills of experts across several dozen specialized fields.

### **The different stages of the IDAR model and case studies of technology absorption and innovation in the defense domains**

The IDAR concept has only been implemented in practice since the 1990s when various portions of the civilian and defense research and development apparatuses and industrial economy began to pay serious attention and devote resources to digestion and absorption.<sup>37</sup> Figure 7.2 provides an overview of the types of entities that can be found in the three stages of the IDAR process (introduction-digestion-absorption) as well as the re-innovated output that eventually emerges.

## The Organization of China's IDAR System

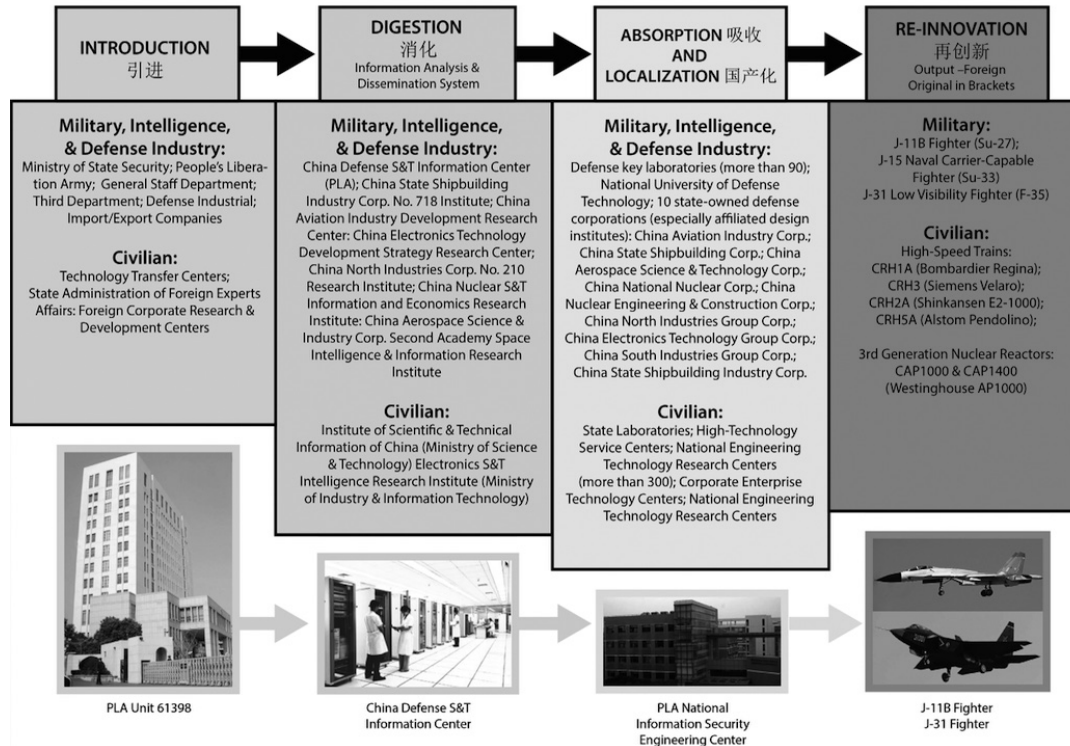


Figure 7.2 Key Chinese civilian and defense organizations within its IDAR system.

**Introduction**

Gaining access to external knowledge is vital for the Chinese national and defense innovation systems to compensate for the gaps and inadequacies in their research and development bases and in order to meet ambitious development targets. There are a multitude of acquisition and technology transfer mechanisms and channels:

- technology and equipment imports;
- foreign direct investment and direct (explicit technology transfer agreements) and indirect (transfer of governance and other types of less tangible soft skill sets) spillover effects;<sup>38</sup>
- espionage through traditional industrial and information era cyber operations;
- open source information collection and analysis;
- establishment of foreign R&D centers;
- human capital transfers and exchanges.

The most important of these channels for the Chinese defense innovation system are arms and defense technology-related imports, espionage, and open source information collection and analysis. China is one of the world's largest arms importers and exporters. The Stockholm International Peace Research Institute estimates that China was the world's biggest arms importer between 2003 and 2007 with a global share of 12 percent and ranked second between 2008 and 2012 with a 6 percent share.<sup>39</sup>

The Chinese defense establishment has a large and well-developed joint civilian–military bureaucracy to manage this arms trade. On the military side, the PLA General Armament Department is the principal responsible agency involved in the process, which has a military aid and trade bureau (军援军贸局) under its international cooperation department in charge of this portfolio. On the government side, the State Administration for Science, Technology, and Industry for National Defense (SASTIND) is the chief agency in charge through its military trade and foreign affairs department (军贸与外事司). Other government agencies that are involved include the Ministry of Industry and Information Technology (MIIT), State-Owned Assets Supervision and Administration Commission (SASAC), and the Ministry of Commerce. Commercially, there are around half-a-dozen specialized trading firms that are responsible for the import-export activities of the ten major state-owned defense corporations. The PLA relies on China Poly Group for its arms trade activities, especially arms imports from Russia.

In the face of long-term international restrictions on defense-related technology transfers, two of the primary mechanisms that the Chinese defense S&T system employs to mitigate these limitations are open source information collection and espionage activities. For open source information collection, China has built a substantial infrastructure that dates back to the 1950s and initially was created to support the country's construction of its strategic nuclear weapons and

ballistic missile capabilities. Information collection is an integral element of the information analysis and dissemination (IAD) system, which will be assessed in the next section on assimilation.

Espionage also plays an important and growing role in China's defense acquisition efforts, although its value is difficult to gauge because of the lack of transparency. This comes in two forms: industrial espionage and computer network exploitation (CNE) or cyber-espionage. Traditional industrial espionage has been the bread and butter of China's spying efforts since the founding of the Communist republic, but its impact on improving the Chinese defense S&T system appears to have been limited and episodic until the beginning of the 1990s because of the country's economic and technological isolation from the global defense economy.

An important turning point in China's industrial espionage efforts took place in the early 1990s with the collapse of the Soviet Union. This allowed China to take advantage of the economic chaos in Russia and former Soviet republics and gain access to their defense-industrial facilities and scientific and engineering personnel. Hundreds of Russian defense scientists and engineers were recruited and brought over to China to provide expert advice, especially during the 1990s.<sup>40</sup> There has also been a proliferation of cases that show intensive Chinese intelligence-gathering activities taking place in the former Soviet Union. For example, the Russian chief executive of a rocket and missile company was imprisoned for illegally providing missile design information to China Precision Machinery Import-Export Corporation in 2007.<sup>41</sup> In another case also involving missile technology, two Russian academics from St. Petersburg's Baltic State Technological University were jailed in 2012 for selling classified information on the Bulava, Russia's latest generation intercontinental ballistic missile, to representatives of "Chinese military intelligence."<sup>42</sup>

A key role for defense S&T organizations is to provide technical targeting requirements to guide the work of collection units. Little information is known about how this targeting process works though, but the notoriously hierarchical and compartmentalized nature of the Chinese defense establishment would suggest that targeting requests by S&T organizations go up through their respective chains of command. Entities affiliated with the defense industry would report to the State Administration for Science, Technology, and SASTIND, while PLA units would go through their own departments and service arms. Requirements by military units belonging to the armaments system, for example, will go up through the General Armament Department (GAD) hierarchy. For cyber-espionage, military targeting requests eventually make their way to the PLA's General Staff Department's Third Department that is in charge of carrying out CNE operations.<sup>43</sup>

The effective management of these coordination and transmission channels is crucial to the performance of the acquisition process. Entities that are likely to play influential roles in providing targeting requirements include the Science and Technology Committees that belong to the GAD, SASTIND, each of the ten major defense-industrial corporations, and S&T research organizations.<sup>44</sup>

***Digestion***

In the digestion of foreign technology and knowledge, a key mechanism that China has cultivated since the formative years of the development of its S&T R&D system in the 1950s has been a S&T IAD apparatus.<sup>45</sup> A key rationale for the historical development of the IAD system was to provide information on global S&T developments to civilian and military S&T and academic organizations that were largely isolated from the outside world during the regime of Mao Zedong between the 1950s and 1970s. The output of this system consisted of the acquisition, collation, and translation of foreign S&T literature but also of specific technical information that was of direct utility to research and development organizations, especially for nuclear, space, and computational outfits.<sup>46</sup>

A number of major IAD entities were established within the S&T system, including the Institute of Scientific and Technical Information of China, which belonged to the State Science and Technology Commission (now the Ministry of Science and Technology), and the Electronics Science and Technology Intelligence Research Institute that is presently affiliated with the MITT.

The IAD system consists of around 400 analysis and diffusion centers with around 50,000 personnel, according to a 2006 assessment.<sup>47</sup> However, only around 35 belong to central government agencies and the rest are affiliated with provincial or lower-level institutions.<sup>48</sup>

The vast majority of the external information that IAD organizations analyze comes from open sources such as media, online, and academic outlets.<sup>49</sup> The classified intelligence collected by PLA intelligence agencies are likely to be only available for the military component of the IAD system, which is centralized under the China Defense Science and Technology Information Center (CDSTIC) that is affiliated with the GAD. CDSTIC has grown rapidly over the past few decades, especially since the end of the 1990s, to cope with intensive demand for its S&T information and analysis services from the defense innovation system, military organizations, and the country's leadership.<sup>50</sup>

Concerted efforts have been made to improve the ability of the IAD system to assimilate and disseminate information in a timely and organized fashion. This includes the development of Internet-based and closed intranet S&T databases and information retrieval networks. CDSTIC, for example, operates an engineering technology information network, an all-army equipment S&T information network, a GAD-specific S&T intelligence network, and an online digital library.<sup>51</sup>

Another important aspect of digestion is learning and the Chinese national and defense S&T systems have built up an extensive apparatus of research universities, vocational colleges, laboratories, and research institutes to study and improve upon the acquired foreign technology and knowledge as well as to educate and train new generations of scientists and engineers for the country's innovation system. While the country's higher educational system is able to produce sufficient quantities of science and engineering graduates to satisfy demand from both the civilian and defense sectors, the quality of this talent pool is mixed.

The number of science and engineering (S&E) graduates from Chinese higher education institutions has surged since the late 1990s. In 1998, there were around 250,000 S&E first degree graduates, but this increased by more than 400 percent by 2010 to 1.1 million. By comparison, the US produced around 280,000 S&E graduates in 2010.<sup>52</sup> Perhaps a better gauge of advanced educational quality that contributes to innovative capacity is the number of awards for doctoral degrees. Of the estimated 200,000 doctoral degrees that were issued worldwide in 2010, China accounted for 31,000, slightly behind the US output of 33,000, although around 10 percent of the US awardees were Chinese nationals. By comparison, China issued 1,900 doctorates in 1993.<sup>53</sup>

### ***Absorption***

Absorption is the third step of the IDAR process and this is the engineering stage in which the goal is to transform the acquired and digested knowledge and technology into output. This process is carried out through an assortment of approaches that include collaborative international joint ventures as well as through illicit transfers and reverse engineering, both authorized and unauthorized.

The Chinese authorities are investing heavily in building up an extensive technology and engineering eco-system to support efforts to combine digested foreign and local technologies. This includes the establishment of an extensive array of entities such as national engineering research centers, enterprise-based technology centers, state key laboratories, national technology transfer centers, high-technology service centers, and the recruitment of foreign technical experts through organizations such as the State Administration of Foreign Experts Affairs. National engineering research centers are one of the most important types of institutions designated by the Chinese government transforming the acquired and digested external technology into actual output. There were nearly 300 of these research centers in operation in 2013 and some of their key goals are:<sup>54</sup>

- To promote the transfer of advanced technologies and manufacturing processes for large-scale industrial production.
- Enhancing innovation ability by digesting and assimilating technologies introduced from abroad and recreating new technologies through international cooperation and exchanges.

### ***Re-innovation and the case study of the Su-27 fighter aircraft***

One of the first cases of the successful implementation of the IDAR strategy that paved the way for its adoption in the rest of the defense industry is the “re-innovation” of the Soviet Su-27 fighter aircraft into the Shenyang J-11B between the late 1990s and early 2000s. China had signed an agreement in 1995 for the license assembly and eventual manufacturing of the aircraft by Shenyang Aircraft Corp (SAC), one of the country’s most advanced military aviation enterprises. A



first production run of around 100 aircraft took place between the late 1990s and mid-2000s. Chinese engineers initially struggled to fully master the advanced manufacturing and industrial management methods needed to produce an aircraft that was a generational leap in technology. SAC was eventually able to absorb the processes and lift output to its maximum rate by the early 2000s.

As the two sides negotiated for another production round in the early 2000s, the Chinese were discovered to have been secretly reverse engineering the aircraft, which they called the J11B.<sup>55</sup> This led to a major rupture in the two countries' defense S&T cooperation as Russia demanded that China halt such intellectual property rights infringements and guarantee not to further engage in these practices.<sup>56</sup>

China, however, pushed back and claimed that the J11B was a new aircraft with significantly improved avionics, the use of composite materials, and more advanced weapons systems. As the dispute continued into the late 2000s, China was found to have cloned another Sukhoi fighter, the Su-33, which was an improved naval carrier version of the Su-27 into the J-15. This project was not as big an irritant in China-Russia relations though because China had acquired a prototype of the aircraft from Ukraine in the early 2000s. In addition, the Su-30 also appears to have been re-innovated into the J-16. Beijing and Moscow eventually settled their differences in the early 2010s, which allowed for the resumption of negotiations for major weapons packages.

This access to former Soviet defense technology may have helped select portions of the Chinese defense industry to advance by at least one or more generations. The most significant contributions have been in fighter aircraft programs, air-to-air missiles, radars, fire-control systems, aircraft carrier and other naval systems, and manned space.

### **The impact of technology absorption on the PLA's force projection capabilities**

The absorption and re-innovation of foreign technology and knowledge has been a powerful catalyst in advancing the overall modernization of China's armament capabilities since the late 1990s. This has allowed the PLA to close – and in some cases eliminate – the technological gap with regional and global competitors in an expanding number of areas. The biggest beneficiaries of the IDAR and other forms of technology importation strategies have been in the aviation, naval shipbuilding, and select precision-strike missile sectors. Without these technological achievements that are being translated into operational capabilities, the PLA's shift to a more regionally assertive and maritime-oriented posture would have been little more than empty talk.

The military aviation sector has been especially reliant on the leveraging of foreign technology transfers to support its development.<sup>57</sup> A significant proportion of the country's combat aircraft development programs have depended on foreign, mostly Russian, technology inputs. These technology transfers come in several forms:



- *Reverse engineering*: The Chinese aviation industry has been able to reverse engineer complete platforms acquired through license assembly agreements (Su-27), off-the-shelf purchases (Su-30MK2), and opportunistic acquisition of prototypes (Su-33), which it then adapts and indigenizes with local sub-systems and components. A substantial proportion of the PLA Air Force's combat inventory consists of these re-innovated aircraft, such as the J-11B (Su-27), J-15 (Su-33), and J-16 (Su-30MK2).
- *Research and development assistance*: A number of Chinese "indigenous" programs have received extensive levels of foreign assistance in their design and development, including co-design and co-development. Much of the original design of the J-10A fighter, for example, was from Israel and its Lavi fighter program. China and Russia are also reportedly close to signing an agreement on the co-design and development of a heavy-lift helicopter, of which Russia is in charge of aerodynamics design and China providing avionics systems.<sup>58</sup>
- *Critical components and sub-systems*: While the overall technological level of the Chinese aviation industry is steadily improving, there are pockets of backwardness in critical components and sub-systems. High-end turbofan jet engines stand out as the biggest weakness, which has made China dependent on Russian engines. Avionics, data fusion, radar systems, fire-control systems, transmission gear, and advanced materials are other areas in which China looks to foreign sources for technology transfers.
- *Enabling technologies*: As the Chinese aviation industry becomes more sophisticated across all the stages of the research, development and acquisition process, it is sourcing foreign assistance for wind tunnels, computer-aided design and manufacturing software, and advanced production equipment such as multi-axis machine tools.

Foreign technology has also played an influential role in the improving technological performance of the naval shipbuilding industry. This was especially the case from the 1990s to the mid-2000s when there was extensive importation of Russian technology and know-how. As Chinese shipbuilders absorbed these transfers, they have been able to substantially reduce their foreign reliance in the past decade. A 2015 US Office of Naval Intelligence assessment of the equipment modernization of the PLA Navy's surface fleet noted that,

By the second decade of the 2000s, the PLA(N)'s surface production shifted to platforms using wholly Chinese designs and that were primarily equipped with Chinese weapons and sensors (though some engineering components and sub-systems remain imported or license produced in country).<sup>59</sup>

A report by the Office of Naval Intelligence (ONI) noted that the last purchase of a foreign naval platform was the Sovremennyy-II guided-missile destroyer in 2006 and since then the Chinese naval shipbuilding industry has been engaged in

much longer production runs of its domestically produced surface combatants and conventional submarines, suggesting greater satisfaction with recent designs. The Jiangkai-class (Type 054A) frigate series, Luyang-class (Type 052B/C/D) destroyer series, and the upcoming new cruiser (Type 055) class are considered to be modern and capable designs that are comparable in many respects to the most modern Western warships.

The transformation of the Admiral Kuznetsov class Varyag aircraft carrier into the Liaoning aircraft carrier between the late 2000s and the early 2010s offers a revealing case study of how the PLA Navy is moving from absorption to innovation in one of China's largest-ever defense-industrial projects. In particular, the story of the Liaoning's refurbishment points to the strengths and weaknesses of different technological and engineering areas related to not only carrier development but to China's defense-industrial modernization in general.

The remaking of the Liaoning initially began as an opportunistic acquisition of a partially constructed Russian aircraft carrier in the late 1990s, but the Chinese military authorities did not know what to do with the vessel as there was no decision as to whether the PLA Navy should have an aircraft carrier at the time. Consequently, it took several years before the Varyag was finally moved to China in 2002. It was not until 2004–2005 that the military leadership finally gave approval for the establishment of an aircraft carrier program.

The rebuilding of the Varyag appears to be a case of engineering re-innovation and technological innovation. The major engineering challenges were to repair a badly rusted ship and to refurbish the ship's main engine, much of which appeared to have been retained although with some key components removed. According to a Japanese assessment of the Liaoning program quoting PLA Navy sources, the propulsion system was eventually rebuilt from this original engine.<sup>60</sup> The reliability of the propulsion system though is a serious concern, especially as a diesel generator failed during one of its early trial runs in 2012.<sup>61</sup> Besides the engine, all of the ship's other equipment, including wiring and pipes, had been stripped, which meant that the Chinese side had to provide all the weapons, combat systems, and other equipment required for an operational carrier.

While the refitting of the Liaoning took around 6–7 years and was one of the biggest programs in the Chinese shipbuilding industry's history, it was successful in addressing the numerous and complex range of tasks, many for the first time. The most difficult challenges included enabling the Liaoning to be able to conduct air operations, developing a reliable propulsion system, and supplying a full suite of electronic and combat capabilities. One technological issue that the Liaoning did not deal with, but will be important for the new generation of carriers reportedly already under development, is a catapult launching system.

The Liaoning represents a major step forward in the technological and industrial capabilities of the Chinese naval shipbuilding industry, but is a more modest advance for the operational capabilities of the PLAN. For the shipbuilding sector, the Liaoning was a critical learning experience that allowed them to

proceed with more confidence and experience in building their first indigenous carriers. For the PLA Navy, the Liaoning provides a critical training platform to produce the first generations of pilots and deck crews that are able to conduct carrier operations. But it is only with the next generations of wholly domestically designed and built aircraft carriers that the PLA Navy will have a truly operational carrier capability.

This next generation of aircraft carrier arrived in the second half of the 2010s in the form of the Type 001A. This vessel represents an incremental innovation from the Liaoning in that it is of comparable size at around 70,000 tonnes and uses the same ski-jump flight deck although with a slightly more upturned deck. But the Type 001A does incorporate some important improvements, such as a better designed hanger, ship island, ammunition lift system, and more advanced information and electronics capabilities, including large-scale active phased array radars.<sup>62</sup> The Type 001A was launched in April 2017, began sea trials in May 2018, and is expected to go into operational service within another 12–18 months.

The PLAN and Chinese shipbuilding industry though does appear to be undertaking a far more ambitious technological leap with its follow-on model to the Type 001A. In February 2018, China Shipbuilding Industry Corporation (CSIC), the country's principal naval shipbuilder, issued an "Outline of Strategic Guidelines for High-Quality Development in the New Era" that pointed out that the company "should hasten the pace of achieving breakthroughs in the development of nuclear-powered aircraft carriers" as well as "new-type nuclear-powered submarines, quiet submarines, Artificial Intelligence-based unmanned underwater confrontation systems, 3D underwater defensive/offensive systems, and comprehensive electronic information systems for the naval battlefield" that should enable the PLAN to become a "deep-blue and distant-sea force by 2025."<sup>63</sup> Besides nuclear propulsion, there is also plenty of speculation that this new carrier will incorporate other cutting-edge homegrown technologies such as electromagnetic aircraft launch system. Construction of the new carrier reportedly began at the Jiangnan Shipyard in Shanghai in 2017.<sup>64</sup>

The Chinese submarine acquisition program has also been undergoing a similar transition to indigenous sourcing. In the conventional domain, purchases of the Russian Kilo-class submarines in the 1990s and early 2000s have been superseded by the development and introduction into service of the Yuan and Song-class submarines, which are also armed with indigenous anti-ship cruise missiles such as the YJ-82 and YJ-18. The US Defense Department points out though that the Chinese are still keen to seek Russian help in submarine development with a Sino-Russian joint design and production program based on the Russian Petersburg/Lada diesel-electric submarine that has air-independent propulsion.<sup>65</sup>

China's missile industry, especially for ballistic missiles, has been one of the crown jewels of the country's indigenous defense science and technology development going back to the "Two Bombs, One Satellite" era of the 1950s and 1960s. But some niche areas have benefited enormously from access to foreign,

predominately Russian, assistance. This includes air-surface missiles (Kh-29T, Kh-59), surface-to-air missiles (S-300PMU, S-400), anti-ship cruise missiles (SS-N-22, SS-N-27B), and anti-radiation missiles (Kh-31P, Harpy). Even the DF-21 family of anti-ship ballistic missiles (ASBM) owes much of its initial design work to the US Pershing II missile.<sup>66</sup>

### **Challenges to future progress**

The principal challenges that the Chinese defense industry faces to its continuing and long-term improvement stems primarily from its historical foundations and the uncertain efforts to overcome the corrosive legacy of its difficult past history. The institutional and normative foundations and workings of the defense industry were copied from the former Soviet Union's command defense economy and continue to exert a powerful influence to the present day. The PLA and defense-industrial regulatory authorities are seeking to replace this outdated top-down administrative management model with a more competitive and indirect regulatory regime, but there are strong vested interests that do not want to see any major changes.

The biggest constraints encountered by the Chinese defense industry and the PLA include the following:

- *Monopolies:* Little competition exists to win major weapons systems and defense equipment because each of China's six defense-industrial sectors is closed to outside competition and are dominated by a select handful state-owned defense corporations. Contracts are typically awarded through single sourcing mechanisms to these corporations. Competitive bidding and tendering only takes place for non-combat support equipment, such as logistics supplies.
- *Bureaucratic fragmentation:* This is a common characteristic of the Chinese organizational system,<sup>67</sup> but it is especially virulent within the large and unwieldy defense sector. A key feature of the Soviet approach to defense industrialization that China imported was a highly divided, segmented, and stratified structure and process. There was strict separation between the defense and civilian sectors as well as between defense contractors and military end-users, compartmentalization between the conventional defense and strategic weapons sectors as well as among the different conventional defense-industrial sub-sectors, and division between research and development entities and production units. This severe structural compartmentalization is a major obstacle to the development of innovative and advanced weapons capabilities because it requires consensus-based decision-making that is carried out through extensive negotiations, bargaining, and exchanges. This management by committee is cumbersome, risk-adverse, and results in a lack of strong ownership that is critical to ensure that projects are able to succeed the thicket of bureaucratic red tape and cutthroat competition for funding. This entrenched bureaucratic fragmentation is a

prominent feature of the armament management system. The GAD was only responsible for managing the armament needs of the ground forces, People's Armed Police, select space programs, and the militia.<sup>68</sup> The navy, air force, and Second Artillery have their own armament bureaucracies, and competition is fierce for budgetary resources to support projects favored by each of these services. This compartmentalized structure serves to intensify parochial interests and undermines efforts to promote joint undertakings. A major reform of the armament management system took place at the end of 2015 with the replacement of the GAD with the Central Military Commission Armament Development Department (CADD), which was part of a much broader effort to promote joint command, control, and operations and mitigate inter-service rivalries.<sup>69</sup> It will take some time to determine if these reforms will be successfully implemented, but the ability of the new CADD to carry out its mandate of providing centralized management of the armament system looks to have a greater chance of success than the GAD, which was hamstrung by its institutional bias toward the oversight of the ground forces. The nature of the relationship between the CADD and the armament departments belonging to the service arms will be critical in determining how much jointness versus compartmentalization there will be in the PLA's armaments development.

- *Outdated pricing regime:* The lack of a transparent pricing system for weapons and other military equipment represents a fundamental lack of trust between the PLA and defense industry. The existing armament pricing framework is based on a "cost-plus" model that dates to the planning economy, in which contractors are allowed 5 percent profit margins on top of actual costs.<sup>70</sup> There are a number of drawbacks to this model that holds back efficiency and innovation. One is that contractors are incentivized to push up costs as this would also drive up profits. Another problem is that contractors are not rewarded with finding ways to lower costs such as through more streamlined management or more cost-effective designs or manufacturing techniques. At the beginning of 2014, the GAD announced that it would conduct and expand upon pilot projects on equipment pricing. These reforms include the strengthening of the pricing verification of purchased goods, improving cost controls, shifting from singular to plural pricing models, from "after-purchase pricing" to "whole process pricing," and from "individual cost pricing" to "social average cost pricing."<sup>71</sup> These represent modest steps in the pricing reform process, but the PLA will continue to face fierce opposition from the defense industry on this issue.
- *Corruption:* This cancer has thrived with the defense industry's uncertain transition from centralized state planning to a more competitive and indirect management model.<sup>72</sup> PLA leaders have highlighted the defense research, development, and acquisition system as one of a number of high-risk areas in which corruption can flourish along with the selection and promotion of officials, the enrollment of students in PLA-affiliated schools, funds management, and construction work.<sup>73</sup> The almost complete absence of public

reporting on corruption in the defense industry and armament system means that the extent of the problem is not known. Military authorities justify this lack of transparency as many of the cases are likely to involve classified programs. In the anti-corruption crackdown that begun with Xi Jinping's ascent to power at the 18th Party Congress in 2012, there have only been a handful of cases of defense industry executives and PLA armament personnel being arrested on corruption charges.<sup>74</sup> Maj-Gen. Li Mingquan, a former director of the General Purposes Armament Support Department in the GAD is the only publicized example of a senior GAD officer to have so far been swept up in the anti-corruption campaign.<sup>75</sup>

### **From IDAR to original homegrown innovation**

The IDAR model has been the engineering launchpad for the Chinese defense establishment's takeoff for the past one to two decades and it will continue to play an influential role for years to come. But important segments of the defense industry are now beginning to transition from absorption to homegrown innovation. In the naval shipbuilding and aviation sectors, the types of innovation dynamics that are becoming more prevalent include crossover and incremental innovation.

There is evidence that more intermediate forms of innovation are also beginning to appear. The missile industry's development of the DF-21 family of anti-ship ballistic missiles is the prime example of architectural innovation. The primary enablers of architectural innovation are improvements in organizational, marketing, management, systems integration, and doctrinal processes and knowledge that are coupled with a deep understanding of market requirements and close-knit relationships between producers, suppliers, and users.

Under his tenure, Xi Jinping has laid out the key steps needed in turning China into an advanced defense-industrial power. In his keynote speech at the Communist Party's 19th Congress in October 2017, Xi spelled out a timeline for China becoming a militarily powerful and technologically advanced country by the middle of this century. China should reach the first tier of the world's most innovative countries by 2035 and at the same time the military would realize its objectives of becoming a fully modern force. By 2050, China would challenge for global leadership with a world-class military a centerpiece of the country's "comprehensive national strength."

To achieve these highly ambitious goals, Xi provided a detailed set of reforms and initiatives that were required by the defense science and technology system: "strengthen unified leadership, top-level design, reform, innovation, and the implementation of major projects; reform the defense science and technology industry; achieve greater civil-military integration; and build an integrated national strategic system and capabilities."<sup>76</sup>

One of the first priorities to be implemented is the strengthening of the defense science, technology, and industrial leadership system. This was carried out in 2016 with a far-reaching reorganization of the upper-most echelons of the



PLA armament management system. To carry out Xi's twin requirement of accelerating the pace of development and fielding of conventional armaments while at the same time pursuing more advanced, higher-risk, and longer-term research and development of next generation technologies, the PLA armament system has been restructured into two distinct parts.

The reform of the conventional weapons acquisition system saw the PLA GAD reorganized in 2016 into the Central Military Commission Equipment Development Department (CEDD). The emphasis is on more joint development programs compared to the ground force-dominated focus of its predecessor. A more consequential overhaul has taken place in the management of the R&D of more strategic, cutting-edge, or revolutionary capabilities with the establishment of the CMC Science and Technology Commission (CSTC) that occurred at the same time as the CEDD was set up in January 2016.

When the CSTC was unveiled, there was considerable speculation in Chinese and foreign media that it was modeled on the US Defense Advanced Research Projects Agency (DARPA). There are similarities in the functions of the CMC-STC and DARPA, of which one noteworthy example is that they both actively engage with civilian universities to support basic research.

But there are also important differences that suggest the Chinese approach in conducting disruptive innovation is distinctive from the US model. A key difference is that the CSTC is tightly integrated into the PLA hierarchy with a two-star lieutenant-general in charge, whereas DARPA enjoys considerable autonomy by being outside the uniformed chain of command. A CMC science research steering committee has also been established to provide technical and strategic guidance to the CSTC. These institutional developments demonstrate a clear commitment by the Chinese military authorities to seriously engage in higher-end homegrown innovation research and development.

Despite this impressive track record, the government is seeking to implement major reforms to overcome deep-rooted structural bottlenecks caused by the industry's central planning legacy. One important reform initiative that began in 2017 was a pilot project to overhaul the ownership structure of wholly state-owned defense research institutes and academies so they could be allowed to list. This would provide a lucrative source of capital as research institutes make up a significant proportion of defense corporations' fixed asset stock. Defense companies have been engaged in this process known as asset securitization since 2013 and have raised more than US\$30 billion by the end of 2017 from initial public offerings and other financial vehicles that have been ploughed back into product development, including weapons activities.

Another important reform is the consolidation of state-owned defense conglomerates. Each of the half-a-dozen sectors that make up the Chinese defense industry is controlled by one or two of the country's big defense corporations. Efforts to promote competition in the late 1990s by dividing these monopolistic behemoths into two competing entities were largely a failure because of poor institutional design. Consequently, the Chinese authorities began to remerge these firms, especially so they can compete with much larger foreign firms on



the global arms and technology markets. This began in the late 2000s with the consolidation of the aviation sector, but there was a long hiatus before the next merger took place at the beginning of 2018 between the two principal firms in the nuclear sector, China National Nuclear Corp. and China National Engineering Corp. The shipbuilding industry appears next in line for restructuring as one of its two dominant conglomerates, China State Shipbuilding Corp., has been adversely affected by a sharp downturn in the global civilian shipbuilding market.

The Chinese authorities have also been championing efforts to promote the convergence of the civilian and defense components of the national economy since the beginning of the twenty-first century, but with little tangible success because of limited high-level leadership attention, unclear strategy, ineffective implementation, and poor coordination between civilian, defense regulatory, and military agencies. Chinese authorities see this convergence, which is termed civil–military integration (CMI), as essential in the country’s drive for original innovation and defense modernization.

The bulk of efforts to promote CMI have focused on reforms of defense corporations and on the implementation of policies, platforms, and other mechanisms by which private sector technology can flow into defense projects. This included opening up the closed and opaque defense acquisition system to allow civilian firms to take part and bid for projects and reducing red tape and excessive secrecy.

Xi has actively promoted CMI under his tenure, which he rephrased as military–civil fusion (MCF 军民融合) to distinguish a new approach that he was taking. To address the previous CMI strategy that was ad hoc, structurally misaligned, and of low policy importance, Xi designated MCF as a national priority in 2015 and defined it as a development strategy. A central goal of the MCF development strategy is, according to Xi, to build an “integrated national strategic system and strategic capabilities.” The development of such a strategic system and capabilities will allow China to “implement key science and technology projects and race to occupy the strategic high ground for science and technology innovation,” Xi added.<sup>77</sup>

Key elements of this national strategic system are detailed in some of the MCF implementation plans that have been formulated since the adoption of the MCF development strategy. This includes the 13th 5-Year Special Plan for Science and Technology MCF Development issued in 2017 by the CSTC and the Ministry of Science and Technology (MOST) that detailed the establishment of an integrated system to conduct basic cutting-edge R&D in artificial intelligence, bio-tech, advanced electronics, quantum, advanced energy, advanced manufacturing, future networks, new materials “to capture commanding heights of international competition.” This plan also noted the pursuit of MCF special projects in areas such as remote sensing, marine-related, advanced manufacturing, biology, and transportation.

The political significance of MCF gained even more prominence with the formation of the Commission for Integrated Civilian–Military Development

(CICMD) in January 2017. The importance of this organization in leading MCF policymaking and implementation was made clear with the appointment of Xi as its chair and Premier Li Keqiang as a vice-chair. At the CICMD's first meeting in June 2017, Xi said that there was a "short period of strategic opportunity" to implement MCF, pointing out the most fruitful areas that included infrastructure, equipment procurement, training, military logistics, and defense mobilization.<sup>78</sup> In its September meeting, the CICMD issued a series of plans and guidelines tied to the 13th Five Year Plan on MCF that covered defense-industrial development, and military logistics.<sup>79</sup>

### **Global implications: intensifying US–China technological competition**

China's pivot from re-innovation to original homegrown innovation is still in its initial stages but this shift looks set to grow faster, bigger, and better under Xi Jinping's long-term leadership. While major weaknesses will complicate progress, there are numerous sources of strength to mitigate or overcome these obstacles. They include ample funding and good access to foreign technology and know-how.

The rise of an increasingly innovative Chinese defense establishment has triggered deepening concern in the US that its military–technological superiority with China is under mounting threat. This has led to intensifying Sino–US defense–technological competition that is likely to become more acute. The US Defense Department has been pursuing a number of initiatives since the early 2010s in an effort to maintain its technological advantages, such as the Third Offset Strategy and the Defense Innovation Initiative that was pursued by the Obama Administration.<sup>80</sup>

While the Trump Administration no longer uses the Third Offset label, it has made clear that it embraces the view that the US and China are now great power rivals. This is spelled out in the US national defense strategy issued in January 2018 that points out,

as China continues its economic and military ascendance, asserting power through an all-of-nation long-term strategy, it will continue to pursue a military modernization program that seeks Indo-Pacific regional hegemony in the near-term and displacement of the United States to achieve global pre-eminence in the future.

This competition in the defense domain has also spilled over into the broader US–China technology relationship, especially in areas such as high and strategic technology, communications technology, US and allied curbs on Chinese investment in sensitive technological areas, and restrictions on research and development exchanges. The two countries appear to be spiraling into a technological cold war that has far-reaching negative consequences for not only their technology establishments but also for the development of their national innovation capabilities and for the global technological order as well.

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## 8 Reforming China's defense industry

*Richard A. Bitzinger*

The People's Republic of China has, going back to its founding, strived to become self-reliant in the development and manufacture of arms.<sup>1</sup> The current phrase to express this desire for autarky in defense production and acquisition is, according to Tai Ming Cheung, *you zhongguo tese de zizhu chuangxin*, or "innovation with Chinese characteristics."<sup>2</sup> Bates Gill and Taeho Kim argue that China's desire to wean itself off foreign dependencies for armaments actually goes back more than 150 years, when the country was too weak militarily to fend off the encroaching Western powers.<sup>3</sup> For most of its history, however, the results of these endeavors have been decidedly mixed. Even with sizeable economic inputs, access to foreign technologies, and considerable political will, China, up until the late 1990s, experienced only limited success when it came to the local design, development, and manufacture of advanced conventional weapons. Most systems were at least a generation or two behind comparable military equipment being produced at the time in the West or in the Soviet Union, and problems with quality and reliability abounded. In addition, overcapacity, redundancy, inefficient production, and, above all, a weak defense research and development (R&D) base all conspired to impede the development of an advanced indigenous arms production capability. Overall, these circumstances left China in the unenviable position of pursuing great power status with a decidedly "Third World" arms industry.

Not surprisingly, therefore, *reforming* the local defense industry in order to upgrade its technology base and manufacturing capabilities and to make armaments production more efficient and cost-effective has long preoccupied the Chinese leadership. The fact that most of these efforts had little positive impact on the country's military-technological and industrial capabilities only encouraged Beijing to experiment with additional reforms in the hopes of finally getting it right. The most recent round of defense-industrial base restructuring and reorganization began in the late 1990s, and basically entailed a concerted effort to inject more market-oriented notions – along with additional funding and new technologies, both foreign and commercial – into the Chinese military-industrial complex.

These modernization efforts have had several objectives. For one thing, as China strives to become a global power, it is increasingly seeking "hard" power,

i.e., military strength, commensurate with its growing economic, diplomatic, and cultural “soft” power. Second, Beijing appears to be more prone to use military force (or threaten to use military force) to defend and promote its regional interests, such as its territorial claims in the South China Sea; consequently, building up that military wherewithal is instrumental to this strategy. Third, China aspires to increase its military capacities in order to keep the pressure on Taiwan *not* to declare independence *and* to eventually accept some kind of reunification with the mainland; at the same time, China wants to reduce or eliminate the capabilities of the United States to intervene on behalf of Taiwan in case of a cross-strait military clash. Finally, Beijing overall seeks military power to mitigate the resurgence of American military presence in the Asia-Pacific, and to establish itself as a credible rival to Washington in this region.

For whatever reason, these efforts have paid remarkable dividends, and since the late 1990s, the People’s Liberation Army (PLA) has made amazing progress in transforming itself into a modern fighting force; in many instances, it is practically unrecognizable compared to the forces that existed before 1997. The impact of this transformation has been particularly noticeable in the past few years in the form of a much more assertive, even aggressive, China, increasingly willing to use hard power to protect and advance its national interests. Prominent examples of this increased use of the PLA as an instrument of national policy include the dispatch of PLA Navy (PLAN) vessels to fight piracy in the Gulf of Aden, and the PLAN’s recent launching of an aircraft carrier. What the end result of this military modernization process will be, or how China may further use its growing military power, is still an open question.

A good place to start when addressing the current modernization of the PLA is 1997, as this marked a watershed year in the history of the Chinese military. It was around this time, for instance, that the PLA officially adopted the strategic concept of fighting “limited local wars under high-technology conditions” (and later, “under conditions of informatization”), which still drives current operational and hardware requirements for its military modernization. Starting that year, too, Chinese defense spending began its remarkable and near-unbroken run of double-digit real annual growth, which has underwritten the process of military modernization that was to follow. Also in 1997, the decision was made by the central government to force the PLA to divest itself of the bulk of its commercial activities so as to concentrate on its primary function, that is, deterrence, compellence, and if necessary, war-fighting. Finally, and most important to this chapter, at the 15th Party Congress in September 1997, the Chinese Communist Party (CCP) decided to radically reform the state-owned enterprise (SOE) sector, which marked the beginning of the current process of restructuring and upgrading China’s defense industry.

### **China’s military–industrial complex up until the late 1990s**

China possesses one of the oldest, largest, and most diversified military–industrial complexes in the developing world. The modern Chinese arms industry

has its roots in the 1950–1953 Korean War and the initiation of some 41 “key projects” for weapons production during the 1950s.<sup>4</sup> By the late 1990s, the Chinese defense–industrial base was an agglomeration of approximately 1,000 enterprises, each comprising multiple factories, research units, trading companies, and schools and universities, and employing some three million workers, as well as 300,000-plus engineers and technicians.<sup>5</sup> In particular, China is one of the few countries in the developing world to produce a full range of military equipment, from small arms to armored vehicles to fighter aircraft to warships and submarines, in addition to nuclear weapons and intercontinental ballistic missiles.

Up until the early 1990s, armaments production was largely concentrated in a handful of machine-building ministries with responsibility for a particular defense sector (e.g., the Ministry of Aviation and Aerospace Industry, which manufactured aircraft and missile systems). In 1993, in an effort to “corporatize” the defense–industrial base, these ministries were reorganized into five SOEs: Aviation Industries of China (AVIC); China Aerospace Corporation (CASC); China Ordnance Industry Corporation (also known as NORINCO); China State Shipbuilding Corporation (CSSC); and China National Nuclear Corporation (CNNC). Subsequently, their industrial responsibilities were:

- AVIC: fighter aircraft, bombers, transports, trainer jets, helicopters, attack aircraft, unmanned aerial vehicles (UAVs).
- CASC: tactical and strategic missile systems, space-launch vehicles, satellites.
- NORINCO: all ground ordnance, including tanks, armored vehicles, artillery systems, small arms and ammunition.
- CSSC: all warships, including destroyers, frigates, submarines, corvettes, patrol boats.
- CNNC: nuclear weapons, nuclear energy development, nuclear power plants, nuclear fuel and equipment.

The Commission on Science, Technology, and Industry for National Defense (COSTIND) nominally administered these five SOEs, while COSTIND also directed the country's military R&D program.

Despite these accomplishments, the Chinese military–industrial complex suffered from a number of shortcomings that in turn inhibited translating breakthrough technologies and designs into comparatively advanced weapon systems. As late as the late 1990s, China still possessed one of the most technologically backward defense industries in the world; most indigenously developed weapons systems were at least 15 to 20 years behind that of the West – basically comparable to 1970s- or (at best) early 1980s-era technology – and quality control was consistently poor. China's defense R&D base was regarded to be deficient in several critical areas, including aeronautics, propulsion (such as jet engines), microelectronics, computers, avionics, sensors and seekers, electronic warfare, and advanced materials. Furthermore, the Chinese military–industrial complex has traditionally been weak in the area of systems integration.<sup>6</sup>

Consequently, aside from a few “pockets of excellence,” such as ballistic and anti-ship missiles, the Chinese military-industrial complex by the late 1990s appeared to demonstrate little capacity for designing and producing relatively advanced conventional weaponry. Especially when it came to combat aircraft, surface combatants, and ground equipment, the Chinese generally confronted considerable difficulties when it came to moving prototypes into production, resulting in long development phases, heavy program delays, and low production runs. The J-10 fighter jet – China’s premier fourth-generation-plus combat aircraft – took more than a dozen years to move from program start to first flight, for example, and nearly 20 years before it entered operational service with the PLA Air Force (PLAAF).<sup>7</sup> Even after the Chinese had begun building indigenous weapons systems, production runs were often small and fitful.

Consequently, despite years of arduous efforts, the inability of China’s domestic defense industry to generate the necessary technological breakthroughs for advanced arms production meant that Beijing continued to rely heavily – even increasingly – upon direct foreign technology inputs in critical areas. These foreign dependencies are especially acute when it comes to jet engines, marine diesel engines, and fire-control radar and other avionics. For example, endemic “technical difficulties” surrounding the JH-7 fighter-bomber’s indigenous engine resulted in significant program delays, forcing the Chinese to approach the British in the late 1990s about acquiring additional Spey engines in order to keep the aircraft’s production line going; additionally, current versions of the J-10 are presently being outfitted with a Russian engine, until the Chinese aviation industry is able to perfect an indigenous replacement.<sup>8</sup> Chinese surface combatants incorporate a number of foreign-supplied systems, including Ukrainian gas turbine engines, French surface-to-air missiles, Italian torpedoes, and Russian ship-based helicopters.

In fact, until the late 1990s and even the early 2000s the sharpest edges of the pointy end of the PLA spear were still mostly of foreign – and particularly Russian – origin. From this, one may infer that the Chinese military was still dissatisfied with the quality and capabilities of weapon systems coming out of domestic arms factories, or that local arms manufacturers remained unable to produce sufficient numbers of the kinds of weapons that the PLA wants in the near future. Consequently, from the middle to the 1990s to the middle of the first decade of the twenty-first century, China was one of the world’s largest arms importers, and between 1998 and 2005 Beijing signed new arms import agreements worth some US\$16.7 billion; as recently as 2005, it purchased US\$2.8 billion worth of foreign weapon systems.<sup>9</sup> In the early 1990s, for example, despite the fact that China already had four fighter aircraft programs either in production or development – the J-7, J-8II, JH-7, and J-10 – the PLA nevertheless decided to buy several dozen Su-27 fighters; this purchase was later supplemented by an agreement to license produce 200 Su-27s and then a subsequent purchase of approximately 100 more advanced Su-30 fighter-bombers. The PLAN also acquired 12 *Kilo*-class submarines and four *Sovremennyy*-class destroyers (armed with supersonic SS-N-22 anti-ship cruise missiles), even

though Chinese shipyards are building the *Song*-class submarine and several new types of destroyers. Other Russian-supplied weapons systems included S-300 and SA-15 surface-to-air missiles, Il-76 transport planes, airborne early warning aircraft, AA-12 active-radar guided air-to-air missiles, and various precision-guided munitions. With few exceptions (such as tactical ballistic missiles or nuclear submarines), foreign weapons systems remained the most critical force multipliers when it came to calculating Chinese military power. Autarky, or self-sufficiency in armaments production, continued to elude the PLA, therefore – in some cases, quite significantly.

Compounding these technological deficiencies and continuing foreign dependencies was a number of structural, technical, and “corporate cultural” deficiencies that impeded the design, development, and manufacture of advanced conventional weapons. Overall, arms production in China had largely been, for several decades, an inefficient, wasteful, and unprofitable affair. One reason was excess capacity: Quite simply, China possessed far too many workers, too many factories, and too much productive capacity for what limited weaponry it produced, resulting in redundancy and a significant duplication of effort, inefficient production, and wasted resources. The Chinese aircraft industry, for example, was estimated in the late 1990s to possess a workforce nearly three times as large as it required.<sup>10</sup> Within the shipbuilding industry, output during the same period was only 17 tons per person per year, compared to around 700 tons per person in shipyards in more advanced nations.<sup>11</sup>

By the mid-1990s as well, at least 70 percent of China's state-run factories were thought to be operating at a loss, and the arms industries were reportedly among the biggest money-losers. As a result, most defense firms were burdened with considerable debt, much of it owed to state-run banks (who were obliged to lend money to state-owned firms); at the same time, arms factories were owed money by other unprofitable state-owned companies, which was nearly irrecoverable.<sup>12</sup>

The creation of China's “Third Line” defense industries – that is, the establishment of redundant centers of armaments production in the remote interior of southern and western China – in the 1960s and 1970s only exacerbated this over-capacity, under-utilization, and unprofitability of the Chinese military-industrial complex.<sup>13</sup> Estimates are that from 1966 to 1975, Third Line construction consumed perhaps two-thirds of all industrial investment. Even by the late 1990s, approximately 55 percent of China's defense industries were located within the Third Line, yet most of these industries were much less productive than coastal area factories and continued to operate in the red.<sup>14</sup>

Another structural impediment was the highly compartmentalized, vertically integrated, and secretive nature of the Chinese defense industry. Such a stove-piped and stratified environment made it difficult for arms producers to diffuse advanced technologies; gain access to advanced, militarily usable civilian technologies; share learning experiences; and collaborate on advanced weapons projects. In particular, it limited communications between R&D institutes that designed the weapons and the arms factories that produced these systems;

between defense enterprises when it came to collaborating on weapons projects; and even between the defense industry and its major consumer, i.e., the PLA, when it came to requirements and specification. It exacerbated redundancy and the duplication of effort within the Chinese arms industry, as each defense enterprise tried to “do it all,” resulting in the maintenance of expensive but underutilized manufacturing processes, such as dedicated second- and third-tier supplier networks, and the establishment of in-house machine shops for parts production, instead of outsourcing such manufacturing to other firms.

In addition to these structurally based barriers, China’s defense-industrial base for a long time lacked many of the basic technical expertise necessary to fully exploit acquired technologies. One of the most critical of these was the defense industry’s apparently enduring weak systems integration capabilities – the ability to envision, design, and develop a finished weapon system out of hundreds or even thousands of disparate components and sub-systems and get it to function to its fullest potential as a single unit. According to one US aviation industry representative, the Chinese were “especially deficient in systems integration” when it came to aircraft manufacturing, while “Chinese engineers and technicians [were] normally grounded in the basic discipline [of aircraft production], however, practical applications, manufacturing technologies, and overall experience [were] in short supply.”<sup>15</sup> Pollack and Mulvenon, in their seminal study of the Chinese aircraft industry in the mid-1990s, asserted that when it came to the systems integration and engineering process, “the Chinese do not have a master plan that builds aircraft from the bottom up. Instead, they try to take parts off the shelf that were never designed to be part of any particular end product and try to make them fit.”<sup>16</sup> Even the controversial 1999 report by the US House of Representatives on Chinese military-technological capabilities – the so-called “Cox Report,” named after Christopher Cox, who chaired the committee that undertook the study, and which accused China of stealing US military-technical secrets – conceded that China “lacks the ability to integrate the contributions of many disciplines that are required to utilize the rapidly emerging new technologies. The PRC system is unable to keep up with these basically new approaches.”<sup>17</sup>

Even imports of foreign technologies did not always help the Chinese defense industry overcome this systems integration impediment. According to Mark Stokes, Chinese defense enterprises traditionally purchased foreign equipment “without much thought as to how to integrate various components” into a single, workable system.<sup>18</sup> As such, these arms producers may have acquired the “know-how” but not necessarily the “know-why” of advanced weapons development and manufacturing.<sup>19</sup>

Closely linked to the problem of poor systems integration and systems engineering skills was limited workforce expertise on the part of the industry. According to one Western analyst, the Chinese traditionally paid insufficient attention to training and workforce development.<sup>20</sup> Hence, advanced machine tools often went underused (or even unused), due to a lack of skilled operators.<sup>21</sup> In addition, factories often had so little actual contract work that many skilled



workers gained only very limited experience with advanced manufacturing techniques; at the same time, many young bright and enthusiastic engineers and technicians had limited opportunities to apply their knowledge to actual programs.<sup>22</sup> For their part, SOE executives likewise typically lacked the managerial and entrepreneurial skills and experiences necessary to make market-oriented investment and production decisions.<sup>23</sup>

China's military-industrial complex had long functioned under a corporate culture that, in a manner typical of most SOEs, was highly centralized, hierarchical, bureaucratic, and risk-averse. This, in turn, stymied innovation, retarded R&D, and further added to program delays. In a 1999 study on Chinese capacities for innovation, two Western analysts argued that "Chinese managers do not have either the will, the expertise, or the freedom to take the risks and make the adjustment associated with innovations." Consequently, production management was often highly centralized and "personality-centric," with most critical project decisions being made by a single chief engineer. At the same time, lower-level managers tended to be "conformist, adhering to standard rules and procedures rather than to personal judgments based on their professional experiences." Hence, they were usually reluctant to make "learning mistakes" or to take the initiative to deal with problems that might arise on the factory floor, thereby inhibiting experimentation and innovation.<sup>24</sup> Pollack and Mulvenon, for example, noted that Chinese technicians in the aviation industry often lacked practical experience in handling modern technology because of their "hesitancy of making a mistake and failing."<sup>25</sup>

This statist, risk-averse "SOE mindset" permeated throughout the defense sector, undermining competitiveness and the rationalization of arms production. For example, senior executives in China's military-industrial complex were often awarded contracts in order to preserve jobs and keep factories open, rather than on the basis of merit and competency.<sup>26</sup> For its part, the central government was traditionally quite forgiving of bad performance within the SOE sector.

Overall, regarding all of China's problems with armaments production up until the late 1990s, one US aerospace industry representative perhaps summed it up best:

Part of the problem with Chinese [aircraft] manufacturing ... is that industrial management in China still relies on 1950s Soviet styles. This involves "batch-building" a full order of aircraft in advance based on state-planned and dictated order for parts and materials. As a consequence of this system, there are no direct lines of accountability for quality control, and no cost-cutting discussions or steps available to mid-level management. There is no competitive bidding for contracts, workers are redundant, and schedules continually slip because state planning doesn't have a fixed required-delivery date for products ... Young managers stay risk-averse and are reluctant to change or improve the system.<sup>27</sup>



## **Reforming China's defense industry and the shift toward a new defense paradigm**

To be sure, the Chinese have long been aware of the deficiencies in their defense-industrial base, and they have undertaken several rounds of reforms since the late 1980s in order to improve and modernize their military R&D and arms production processes. Most of these efforts fell well short of their intentions, however, because they failed to tackle the basic if endemic problems facing the defense industry: lack of competition, lack of accountability, excess capacity, lack of capital, lack of human skills, and a “statist” corporate culture. These prior failures make the post-1997 reform efforts even more significant, because they – more than earlier attempts – have tried to attack the very nature of Chinese arms development, production, and acquisition in order to, first, inject rational, requirements-based planning into the arms procurement process, and, second, to spur the defense SOEs to act more like true industrial enterprises and therefore (1) be more responsive to their customer base (i.e., the PLA), and (2) reform, modernize, and “marketize” their business operations.

These goals in particular are central to the PLA's new requirements – as laid out in China's 2004 defense white paper – for fighting limited local wars under conditions of informatization.<sup>28</sup> This, in turn, is linked to a “generation leap” industrial strategy when it comes to armaments development and production – that is, skipping or shortening the stages of R&D and of generations of weapons systems. This process, according to You Ji, entails a “double construction” approach of mechanization and “informatization” in order to concurrently upgrade and digitize the PLA.<sup>29</sup> This “two-track” approach calls for both the near-term “upgrading of existing equipment combined with the selective introduction of new generations of conventional weapons” – a so-called “modernization-plus” approach – together with a longer-term “transformation” of the PLA along the lines of the information technologies (IT)-led “revolution in military affairs” (RMA).<sup>30</sup> Cheung argues that this plan was formalized in both the 2006–2020 Medium- and Long-Term Defense Science and Technology Development Plan and the 11th Five-Year Defense Plan, both of which emphasized the acceleration of PLA modernization and a new defense R&D drive.<sup>31</sup> Part of this two-track approach is also dependent on China's “latecomer advantage” of being able to more quickly exploit technological trails blazed by others, as well as avoiding the latter's mistakes and blind alleys.<sup>32</sup>

Defense industrial modernization was propelled in particular by change in Chinese military doctrine, particularly its 20-year evolution from People's War to information warfare (IW). China began its gradual shift away from People's War following its disastrous defeat in its brief war with Vietnam in 1979. By the mid-1980s, the PLA was increasingly concerned with meeting potential security threats emanating from China's east and southeast, especially coming from the sea. This shift was driven by several broad developments. First, Beijing was increasingly confident that it did not face the prospects, anytime soon, of a major clash with either the Soviet Union or the United States. Second, it was enjoying

a relative improvement in relations with many of its neighbors with whom it shared a land border, particularly the USSR, India, and Vietnam. Third, China's relations with powers active or present in and around regional seas – particularly Japan and the Philippines – and especially the United States, presented growing security concerns. Four, several key pillars of Chinese security – economic growth and modernization, territorial integrity, and national unification – were increasingly linked to the maritime realm, including oceanic shipping, sea-based resources (fisheries, offshore oil and gas, etc.), and the ability to enforce “sovereignty” over regional maritime claims, such as the Spratly Islands and Taiwan. All of these higher-priority security concerns meant new requirements for projecting power – especially naval and air power – out into regional seas and beyond China's traditional land boundaries. This led to the new doctrine of “limited local wars,” meaning that China expected conflict in the future would “mobile, flexible, limited (in time, space, and objectives), and offensive in nature.”<sup>33</sup>

The 1991 Gulf War caused the Chinese to further sharpen their perceptions of “limited local war.” Shortly after the war, then-Chinese President and secretary of the CCP Party Jiang Zemin wrote:

The practice of every limited local war, especially the most recent war, tells us that modern warfare has become high-tech warfare. It is multidimensional war, electronic war, missile war.<sup>34</sup>

By the early 1990s, therefore, concepts such as “People's War Under Modern Conditions,” and even “Limited Local War” were coming under increasing criticism for being inadequate to the task of modern warfare. There was a growing concern that “without the support of high technology, the army can hardly win a war fought under modern conditions.”<sup>35</sup> Instead, warfare was “gradually leaving post-World War II forms,” and was “evolving toward the form of high-tech warfare”; thus, “high-tech warfare has set a severe historical requirement” for China.<sup>36</sup> By the late 1990s, therefore, China had fully embraced the concept of “winning limited local wars under high-tech conditions.”

“Limited local war under high-tech conditions” continued the process of active defense based on naval- and air-based power projection. In terms of hardware, this placed a greater emphasis on advanced naval and air systems, anti-ship defenses, and land- and base-based air defense. Moreover, it was increasingly apparent that the nature and complexity of China's force projection requirements would require new capacities when it came to combined-service operations (i.e., jointness) and integrated, linked command, control, and communications (C<sup>3</sup>) systems (i.e., networking) to support these more complex operations. Consequently, these key requirements of “limited local war under high-tech conditions” included: across-the-board improvements in the PLA's nascent green-water and blue-water capabilities, particularly submarines and large surface combatants; advanced combat aircraft; more accurate ballistic and cruise missiles; advanced anti-air and anti-missile defenses; and a more modern C<sup>3</sup> infrastructure.

What distinguishes this period of “limited local war under high-tech conditions” is its added emphasis on the acquisition and deployment of advanced weapons platforms, i.e., “hardware.” This procurement expansion was, in turn, enabled by the rapid growth and modernization of the Chinese economy, which supplied both the wealth to underwrite more ambitious acquisition as well as the nascent but growing technological basis for military modernization and doctrinal change. Consequently, during the 1990s and early 2000s, the PLA began to put considerable effort into acquiring new capabilities for mobility, power projection, and precision strike, particularly when it came to area denial and anti-access.<sup>37</sup> This meant deemphasizing ground forces in favor of building up the PLA’s air, naval, and missile forces. It also meant a return to foreign suppliers in order to short cut the process of military modernization, at least temporarily. In the early 1990s, for instance, China placed an order with Moscow for 24 Su-27 fighter jets, its first purchase of Russian military equipment in around 30 years. This was followed up by subsequent buys of additional Su-27 and Su-30 fighters, and later an agreement to licensed-produce 200 Su-27s at the Shenyang Aircraft Corporation in Liaoning province.

Between the early 1990s and the mid-2000s, in fact, there was a veritable explosion in Sino-Russian arms transfers. According to the Stockholm International Peace Research Institute (SIPRI), China received more than US\$18 billion worth of arms between 1992 and 2004. In addition to Sukhoi fighters, Beijing bought four *Sovremennyy*-class destroyers (armed with the *Moskit*/SS-S-22 supersonic anti-ship cruise missile (ASCM)), 12 *Kilo*-class diesel-electric submarines, and several dozen Mi-8/-17 *Hip* helicopters, along with Tor-M1 and S-300 surface-to-air missile systems, AA-11 air-to-air missiles, Il-76 transport aircraft, Kh-31 anti-radiation missiles, and 3M-54 ASCMs. For much of this period, therefore, Russian weapons systems arguably constituted the sharpest edge in the pointy end of the PLA spear.

At the same time, China was beginning a multi-year, multi-phase effort to modernize its defense technology and industrial base and bring it into the twenty-first century. This was fueled by a significant increase in Chinese defense spending, starting in the late 1990s. Between 1997 and 2005, Beijing increased defense spending by double-digit doses *every year* – 13.7 percent per annum, in *real*, i.e., inflation-adjusted, terms according to the Chinese’s own statistics.<sup>38</sup> As a result the PLA budget went from around US\$10 billion in 1997 to around US\$42 billion in 2005.

Consequently, there was not only more money for imported weapons, but also to support the further, long-term indigenization of PLA acquisition. Beginning in the late 1990s, the PLA began selectively upgrading its existing weapons systems and platforms, while experimenting with the next generation of design concepts. These can be seen in the gradual modernization of China’s nuclear and conventional ballistic missiles, integrated air, missile, and early warning defense systems, electronic and cyberwarfare capabilities, submarines, surface combat vessels and the introduction of fourth-generation and “4+” generations of multi-role combat aircraft.<sup>39</sup> There was, for example, a significant expansion in

Chinese naval shipbuilding beginning around the late 1990s. Between 2000 and 2005, China undertook construction of at least six new destroyers, seven frigates, and eight diesel-powered submarines – more than double the rate of naval ship construction during the 1990s.<sup>40</sup> Additionally, many of these ships were of very modern designs. In 2001, China began work on the first in a new class of domestically developed, 9,000-ton guided-missile destroyer, Type 052B, equipped with a long-range air-defense missile system and incorporating certain low-observable features in its design. A further refinement on this class, outfitted with an *Aegis*-type phased array radar, was the Type-52C *Luyang II*-class destroyer, first launched in 2003. In addition, the PLAN began producing two new classes – the *Song* and the *Yuan* – of diesel-electric submarines, a new class of nuclear-powered attack submarines (the Type-093), and a “stealthy” frigate.<sup>41</sup>

At the same time, China began producing the J-10 fighter jet, a “fourth-generation-plus” combat aircraft equipped with forward canards for increased maneuverability and capable of carrying a variety of air-to-air and air-to-ground munitions. An estimated 300 of these aircraft have been built so far. This period from the mid-1990s to mid-2000s also saw PLA greatly build up – both quantitatively and qualitatively – its arsenal of conventional missile systems, including the 600-kilometer-range CSS-6 and 300-kilometer-range CSS-7 short-range ballistic missiles, the HJ-8 (C-801/C-802) ASCM (a considerable improvement over the old *Styx/Silkworm* missile), as well as a new category of land-attack cruise missile. Additionally, many of these missile systems were fitted with enhanced-navigation guidance for improved accuracy, and with new types of warheads (such as cluster submunitions and fuel-air explosives) for higher lethality.

Admittedly, many of the new indigenous weapons systems that the PLA put into service in the first years of the new century – the J-10 fighter jet, the *Song*-class diesel-electric submarine, and the *Luyang II*-class destroyer – were basically 1980s-era weaponry. The J-10, for instance, is operationally comparable to the F-16C, which first entered service in the mid-1980s. In addition, China was forced by continued setbacks in its turbofan engine efforts to continue to buy jet engines (the AL-31) from Russia and Ukraine to power the J-10 fighter. Nevertheless, this fit in with Beijing's long-standing goal of autarky in innovation. Foreign dependencies were still generally perceived to be tactical and short-term, a “necessary evil” in order to underwrite indigenization and development, and something off with to be eventually weaned.

It was also during this period that the Chinese government and the PLA began to pursue civil-military integration (CMI) and civilian-to-military “spin-on” in a serious fashion. Whereas earlier efforts at CMI tended to revolve mostly around conversion – that is, switching military factories over to civilian use – China's approach to CMI, starting in the late 1990s, entailed a critical shift in policy toward promoting integrated dual-use industrial systems capable of developing and manufacturing both defense and military goods – or as one Western analyst put it, “swords into plowshares ... and better swords.”<sup>42</sup> This new strategy was embodied and made a priority in the defense industry's 10th Five Year Plan for

2001–2005, which emphasized the dual importance of both the transfer of military technologies to commercial use and the transfer of commercial technologies to military use, and which therefore called for the Chinese arms industry to not only to develop dual-use technologies but to actively promote joint civil–military technology cooperation. Consequently, the spin-on of advanced commercial technologies both to the Chinese military–industrial complex and in support of the overall modernization of the PLA was made explicit policy.

The key areas of China's new focus on dual-use technology development and subsequent spin-on included microelectronics, space systems, new materials (such as composites and alloys), propulsion, missiles, computer-aided manufacturing, and particularly IT. Beijing worked hard both to encourage further domestic development and growth in these sectors *and* to expand linkages and collaboration between China's military–industrial complex and civilian high-technology sectors. In 2002, for example, the Chinese government created a new industry enterprise group, the China Electronics Technology Corporation, to promote national technological and industrial developments in the area of defense-related electronics. Under the 10th Five Year Plan, many technology breakthroughs generated under the so-called “863” science and technology program, initiated in March 1986, were finally slated for development and industrialization. Defense enterprises also formed partnerships with Chinese universities and civilian research institutes to establish technology incubators and undertake cooperative R&D on dual-use technologies. Additionally, foreign high-tech firms wishing to invest in China have been pressured to set up joint R&D centers and to transfer more technology to China.

During this period, some of China's key defense–industrial sectors began to benefit from CMI efforts. For China's shipbuilding enterprises, moving into commercial shipbuilding bore considerable fruit beginning in the late 1990s, as local shipyards modernized and expanded operations, building huge new dry-docks, acquiring heavy-lift cranes and computerized cutting and welding tools, and more than doubling their shipbuilding capacity. At the same time, Chinese shipbuilders entered into a number of technical cooperation agreements and joint ventures with shipbuilding firms in Japan, South Korea, Germany, and other countries, which gave them access to advanced ship designs and manufacturing technologies – in particular, computer-assisted design and manufacturing, modular construction techniques, advanced ship propulsion systems, and numerically controlled processing and testing equipment. As a result, military shipbuilding programs collocated at Chinese shipyards were able to leverage these considerable infrastructure and software improvements when it comes to design, development, and construction.<sup>43</sup>

The 1990s were also a period of significant growth and technological expansion in the Chinese space industry, which in turn had many spin-on benefits for the military side. This included new satellites for telecommunications, navigation (China's rudimentary *Beidou* system), and earth observation. In addition, many of the technologies being developed for commercial reconnaissance satellites, such as charge-coupled device cameras, multi-spectral scanners, and

synthetic aperture radar imagers, have obvious spin-on potential for military systems.

Finally, the PLA profited from piggy-backing on the development and growth of the country's commercial IT industry. Starting from a very primitive level in the early 1990s, China's IT sector grew exponentially (both in size and in terms of sophistication) over the next decade, becoming a hub for microelectronics production, including semiconductors, flat panel displays, routers, etc. These developments offered the PLA domestic resources by which to expand and improve its capacities for command, control and communications, information-processing, and IW. It was able to enlist local IT firms – many of which have close ties to China's military-industrial complex and were even founded by former PLA officers (such as Huawei and ZTE) in support of its efforts. Consequently, the PLA developed its own separate military communications network, utilizing fiber-optic cable, cellular and wireless systems, microwave relays, and long-range high-frequency radios, as well as computer local area networks.

As the Chinese economy has continued to expand and modernize, so too has PLA doctrine evolved, along with its approach toward technology. Beginning around 2004, the Chinese military began to embrace the concept of "informationalization," this time influenced by Western writings on the RMA and interconnected concepts of "network-centric warfare" (NCW).

The conventional wisdom is that the *current* RMA is being primarily driven by the ongoing revolution in IT, which in turn has made possible significant advances in the areas of sensors, seekers, computing, communications, and precision strike. Therefore, the current RMA is particularly and inexorably linked to emerging concepts of network-centric warfare. NCW – sometimes also referred to as "network-enabled capabilities" or "network-based defense" – is more than just improved and more capable command, control, communications, computing, intelligence, surveillance, and reconnaissance (C4ISR) infrastructures. Rather, NCW entails the "linking of people, platforms, weapons, sensors, and decision aids into a single network" that "creates a whole that is clearly greater than the sum of its parts."<sup>44</sup> In other words, NCW is about using networked systems in order to achieve holistic and synergistic payoffs in terms of battlefield knowledge, agility, jointness, and lethality.<sup>45</sup>

By the middle of the 2000s, it was apparent that China was particularly enamored with the concept of network-centric warfare. Many in the PLA saw considerable potential for force multipliers in such areas as IW, the digitization of the battlefield, and networked systems.<sup>46</sup> At the same time, adversaries who are highly dependent upon advanced technology – such as the United States – were seen as susceptible to low-tech countermeasures or attacks on their own command, control, and communications capabilities. Consequently, as laid out in its 2004 defense white paper, the PLA officially embraced the doctrine of winning "limited local wars under conditions of 'informatization.'"<sup>47</sup> Under such conditions, such warfare was still seen – as with earlier concepts of "limited local war" – as revolving around short-duration, high-intensity conflicts characterized by agility, speed, and long-range attack. As a further refinement, though,



“limited local wars under conditions of ‘informatization’” entailed joint operations fought simultaneously throughout the entire air, land, sea, space, and electromagnetic battlespace (i.e., five-dimensional warfare), and relying heavily upon extremely lethal high-technology weapons. Such an operational doctrine also emphasizes preemption, surprise, and “shock value,” given that the earliest stages of conflict may be crucial to the outcome of a war.<sup>48</sup> Consequently, “limited local wars under conditions of ‘informatization’” stressed mobility, flexibility, power projection, precision strike, and joint operations fought throughout the entire battlespace.<sup>49</sup>

At the same time, China began to think about how “informationized” force modernization efforts should blend with actions intended to increase professionalization and jointness within the PLA. PLA officers and non-commissioned officers (NCOs) are receiving increased training and education, while recent military exercises have emphasized amphibious warfare with “limited multi-service participation.” The PLAAF and PLAN Air Force devoted more time training to supporting amphibious operations, while PLA ground forces were increasingly integrating training and exercises with maritime, airborne, and special operations forces, and have to put greater emphasis in their training on jointness, rapid mobilization, deployability, and over-the-horizon operations.

Improvements in the PLA’s capability to conduct “high-intensity, regional military operations” have increasingly enabled the Chinese armed forces to pose what US military analysts refer to as an “anti-access/area-denial” (A2/AD) threat. The PLA’s capacities for A2/AD are intended to threaten a potential enemy’s ability to enter or operate freely in a war zone. “Anti-access” is typically described as attacks on air or naval bases using ballistic and cruise missiles, fighter-bombers, and special operations forces, while “area denial” are efforts to deny outside (in this case, US) forces the ability to enter into the western Pacific by targeting the air and maritime dimensions using anti-ship missiles and submarines. A2/AD is seen as especially crucial in deterring or countering third-party interventions, particularly efforts on the part of the US military to come to the aid of Taiwan in the case of a cross-Strait crisis.<sup>50</sup>

In terms of technology, “limited local wars under conditions of ‘informatization’” continued to embrace the overwhelmingly platform-based approach stressed during the period of “limited local war under high-tech conditions.” More critically, however, it added the all-important dimension of “informatization.” In particular, “informatization” (*xinxihua*) means that information technologies, especially those capabilities relating to C4ISR, are considered paramount to expanding military effectiveness. This entailed, among other things, dominating the electromagnetic spectrum through “integrated network electronic warfare” as well as exploiting technological advances in microelectronics, sensors, propulsion, stealth, and special materials to outfit the PLA with precision-strike weapons, including ballistic and anti-ship or land-attack cruise missiles. In short, the PLA, in its long transition from “People’s War” to “limited local wars under conditions of informatization,” was seeking to move from being



a *platform*-centric to a more *network*-centric force, or one where the crucial characteristic of the force is the network linkages among platforms, as opposed to the platforms themselves.<sup>51</sup>

According to You Ji, therefore, beginning in the early twenty-first century the PLA initiated an ambitious “double construction” transformational effort of simultaneously pursuing both the mechanization and informatization of its armed forces.<sup>52</sup> On the one hand, the PLA began to upgrade its current arsenal of conventional “industrial age” weapons, through upgrades and retrofits (“mods and pods”), including improved communications systems, new sensors and seekers, improved precision, night-vision capabilities, etc. At the same time, the Chinese began to build informationalized capabilities, by putting greater effort and resources into C4I infrastructures, surveillance and reconnaissance systems, networking, and IW.<sup>53</sup> Consequently, the PLA put considerable emphasis on upgrading its C4ISR assets – including launching a constellation of communication, surveillance, and navigation satellites – while also developing its capabilities to wage “integrated network electronic warfare” – an amalgam of electronic warfare (jamming the enemy’s communications and intelligence-gathering assets), and offensive IW (hacking or disrupting the enemy’s computer networks), and physical attacks on the enemy’s C4SIR network.<sup>54</sup>

In many instances, PLA informatization efforts have benefited from leveraging advances and improvements in China’s commercial information technology sector. Chinese telecommunications satellites are basically commercial in nature, such as China’s rudimentary *Beidou* navigation satellite system, but both serve military purposes as well. In particular, recent Chinese successes in launching earth observation satellites have had critical military applications in providing near-real time – and increasingly high-resolution – imagery intelligence. In addition, many of the technologies being developed for commercial reconnaissance satellites, such as charge-coupled device cameras, multi-spectral scanners, and synthetic aperture radar imagers, have obvious spin-on potential for military systems. Finally, much of the hardware and skill base for conducting IW has been pulled from the commercial IT industry.

The most recent stage of Chinese war-fighting doctrine has apparently such been revealed earlier this year, that is, “informationized warfare.” This comes out of the PLA’s most recent defense white paper, Chinese Military Strategy, published in May 2015. It lays out an even greater emphasis on “informatization” and makes it central to operational concepts:

To implement the military strategic guideline of active defense in the new situation, China’s armed forces will innovate basic operational doctrines. In response to security threats from different directions and in line with their current capabilities, the armed forces will adhere to the principles of flexibility, mobility and self-dependence ... Integrated combat forces will be employed to prevail in system-vs-system operations featuring information dominance, precision strikes and joint operations.<sup>55</sup>

According to the 2015 white paper, the PLA will continue to de-emphasize land operations, all but abandoning People's War (except in name and in terms of political propaganda), particularly in favor of giving new stress and importance to seapower and force projection: "The traditional mentality that land outweighs sea must be abandoned, and great importance has to be attached to managing the seas and oceans and protecting maritime rights and interests."<sup>56</sup> As a result, the PLA Navy "will gradually shift its focus from 'offshore waters defense' to the combination of 'offshore waters defense' with 'open seas protection,'"<sup>57</sup> an evolutionary development from what was announced in the 2006 white paper, which proclaimed that the "Navy aims at gradual extension of the strategic depth for offshore defensive operations."<sup>58</sup> This will require a "combined, multi-functional and efficient marine combat force structure. The PLAN will enhance its capabilities for strategic deterrence and counterattack, maritime maneuvers, joint operations at sea, comprehensive defense and comprehensive support."<sup>59</sup>

As for airpower, the 2015 white paper stated that PLAAF would "endeavor to shift its focus from territorial air defense to both defense and offense, and build an air-space defense force structure that can meet the requirements of informationized operations."<sup>60</sup> This included building up the PLAAF's capacities for strategic early warning, air-carried precision-strike, air and missile defense, "information countermeasures," and strategic force projection (i.e., airlift).

Further differentiating current "informationized warfare" from its earlier manifestations is the much greater emphasis placed on both cyber operations and spacewar. As the 2015 white paper put it:

Cyberspace has become a new pillar of economic and social development, and a new domain of national security. As international strategic competition in cyberspace has been turning increasingly fiercer, quite a few countries are developing their cyber military forces ... As cyberspace weighs more in military security, China will expedite the development of a cyber force, and enhance its capabilities of cyberspace situation awareness [and] cyber defense ...<sup>61</sup>

Finally, outer space "has become a commanding height in international strategic competition." The weaponization of outer space is increasingly a fact of life and a key future battlespace. Consequently, China plans to "keep abreast of the dynamics of outer space, deal with security threats and challenges in that domain, and secure its space assets to serve its national economic and social development, and maintain outer space security."<sup>62</sup>

Consequently, the PLA appears to be progressing toward becoming a truly "informationized" armed force – a long-term strategy, to say the least. In May 2006, Beijing approved the 15-year Medium- and Long-Term Defense Science and Technology Development Plan (MLP), with the goal of "transforming the PLA into a modernized, mechanized, IT-based force" by 2020.<sup>63</sup> The MLP is one of Beijing's most ambitious science and technology plans to date, with special long-term total funding estimated at 500 billion RMB (US\$75 billion).

This program is intended to boost military R&D spending, focusing on high-technology weapons systems (and specifically on “IT solutions”), supporting advanced manufacturing technologies, and cultivating collaborative international defense R&D efforts.<sup>64</sup> At the same time, Beijing has greatly expanded its science and technology (S&T) education program, training a new generation of defense scientists, engineers, and technicians.<sup>65</sup> Civil–military integration has also been expanded and given additional emphasis. This strategy is embodied in the principle of *Yujun Yumin* (locate military potential in civilian capabilities), enunciated at the 16th Party Congress in 2003.<sup>66</sup> Subsequently, *Yujun Yumin* has been made a priority in the last several Five-Year Defense Plans, as well as the 2006–2020 MLP.

Moreover, the Chinese government appears prepared to dedicate adequate resources over the long term to underwrite informationization of the PLA. National defense spending has continued to increase by near-double-digit percentages each year, and Chinese military expenditures hit US\$141.5 billion in 2015; of it, this is likely that around US\$47 billion is dedicated to equipment spending, of which perhaps US\$5 billion to US\$10 billion (perhaps even more) is allocated to defense R&D. This would make China the second highest spender in the world in terms to procurement and perhaps the second or third highest when it comes to defense R&D spending.<sup>67</sup> This upward trend is likely to continue for some time. Arguably, if anything has had a positive impact on the defense industry, it is this explosion in defense spending – by increasing procurement and therefore production; by expanding R&D spending; and by subsidizing the upgrading and modernization of arms-manufacturing facilities. Consequently, China's defense–industrial base is better suited than ever to absorb and leverage advanced, militarily relevant technologies and therefore provide the PLA with the advanced military systems it requires.

While advancing indigenous defense S&T, China has embarked on an aggressive campaign to acquire and exploit foreign technologies. According to Hannas, Mulvenon, and Puglisi, this process of foreign technology acquisition is part of an unprecedented and aggressive effort, directed by the central Chinese government – a “deliberate, state-sponsored project to circumvent the costs of research, overcome cultural disadvantages, and ‘leapfrog’ to the forefront by leveraging the creativity of other nations.”<sup>68</sup> China, they assert, is engaged in a multi-pronged effort to gain foreign advanced technologies through both legal and illegal means. These include exploitation of open sources, technology transfer and joint research, the return of Western-trained Chinese students, and, of course, industrial espionage (both traditional and, increasingly, cyber-espionage). Hannas, Mulvenon, and Puglisi document a number of cases whereby Chinese intelligence organizations stole technology and other defense secrets from the West, and these were ostensibly incorporated (or will be incorporated) into Chinese weapons systems.<sup>69</sup>

## Impact of informationized warfare on defense–industrial modernization

The Chinese defense, science, technology, innovation, and industrial base has made undeniable advancements over the past decade and a half in terms of developing, manufacturing new, relatively modern military systems. As long as the defense budget continues to grow and the Chinese continue to be able to acquire and exploit foreign technologies, this pace of defense development and production will likely quicken in the decades ahead. As a result, China is increasingly capable when it comes to implementing the doctrine of “informationized warfare.” The then-US Under Secretary of Defense for Acquisition, Technology, and Logistics, Frank Kendall, alluded to China’s growing technological prowess when he testified before Congress in January 2014 that the US military is “being challenged in way that I have not seen for decades,” adding that “technological superiority is not assured and we cannot be complacent about our posture.”<sup>70</sup>

At the same time, however, it would be premature to argue that China will catch up to the defense–technological state-of-the-art any time soon. For all of its talk of becoming an “informationized” military, the PLA is still a decidedly *platform*-centric force, albeit one that is still in the process of becoming *more* network-enabled. To employ Tai Ming Cheung’s “innovation typology framework,” while the Chinese defense S&T base is perhaps proficient at the lower tiers of innovation – i.e., duplicative imitation, creative imitation, creative adaptation, and incremental adaptation – the higher levels of innovation – architectural innovation, modular innovation, and radical innovation – still eludes it for the most part.<sup>71</sup> The Chinese arms industry still possesses severe deficiencies in several key areas of defense R&D, such as propulsion or electronics, as well as the “black arts” of systems engineering and integration. In other words, China is still more of a “fast follower,” or, at best, a niche innovator when it comes to military R&D. In a sense, therefore, China’s defense innovation system remains stuck in a version of the “pockets of excellence” conundrum that it suffered through in the 1980s and 1990s. This time around, however, these pockets of excellence are not necessarily sectoral (such as shipbuilding and missiles), but rather promising breakthroughs in certain technological niches: anti-ship missiles (both cruise and ballistic), stealth aircraft, hypersonics, cyber, outer space, etc.

Being a “creative adaptor” or a niche innovator is not necessarily a bad strategy to pursue. If China is mostly keen, at this juncture, in achieving an A2/AD capability, then a vigorous and directed process of *sustaining innovation* could be sufficient for the PLA to achieve its operational objectives; in other words, ones does not need to approach a “revolution in military affairs” in order to realize “informationized warfare.” A selective and focused approach could be sufficient. Moreover, China’s defense innovation process has always been less about finesse than it has been about brute force, i.e., throwing a lot of resources – especially money and manpower – at a limited number of programs. It may be less glamorous than radical reform, but then again, one cannot argue with its results. As Hannas, Mulvenon, and Puglisi put it:

China's genius, as it were, is in putting together a system that capitalizes on its practical skill at adapting ideas to national projects, while compensating for its inability to create those ideas by importing them quickly at little or no cost.<sup>72</sup>

This is as true today as it was in the 1960s, when China pursued its “two bombs and one satellite” project. The primary difference today is that China possesses the resources to pursue a broader range of weapons programs.

One thing is for certain, and that is that China has not abandoned the goal of autarky in armaments production, even as the PLA's increasingly demanding requirements for advanced conventional weaponry have grown. On the contrary, China is probably more self-reliant when it comes to defense acquisition than ever before in its history, and at the same time, it has become easier and easier to reconcile autarky with high-technology warfare, even with “informationized warfare.” The practice of making short-run, tactical purchases of foreign armaments – from Russia, Israel, and elsewhere – has been mostly abandoned as China's military-industrial complex has caught up with the global standard for advanced (more or less) arms industries. As a result, China faces less and less of a trade-off between autonomous armaments production and deploying a modern PLA.

### **Defense industrial reforms, 1997–**

The most recent and significant round of defense industry reforms began around 1997, when the 15th Party Congress laid out an ambitious agenda for restructuring and downsizing the SOE sector (including the defense industries) and for opening up SOEs to free-market forces – i.e., supply-and-demand dynamics, competitive products, quality assurance, and fiscal self-responsibility. In March 1998, the 9th National People's Congress (NPC) – China's rubberstamp parliament – further refined this agenda by announcing plans to reorganize the government's defense industry oversight and control apparatus in addition to establishing new defense enterprise groups.

One of the most important decisions to come out of the 1998 NPC was the demotion of COSTIND to an ancillary role in coordinating defense R&D, and, at the same time, establishing the PLA-run General Armaments Department (GAD), which was intended to act as the primary purchasing agent for the PLA, overseeing defense acquisition and new weapons programs. As a 2005 RAND report put it, the GAD is part of a process “to create a system that will unify, standardize, and legalize the [Chinese] weapons procurement process.”<sup>73</sup> As such, the GAD is supposed to ensure that local arms producers meet PLA requirements when it comes to capabilities, quality, costs, and program milestones. The GAD was given the authority to implement a “robust” regulatory, standards, and evaluation regime that would enforce quality control and performance, and incentivize competition and innovation.<sup>74</sup>

More importantly, the establishment of the GAD exemplified a major change in how the Chinese approached defense innovation. According to Cheung, the

Chinese military research, development, and acquisition (RDA) system has, since the mid-1980s, gradually transitioned from a “technology-push” model (i.e., weapons programs driven mainly by what the defense industries can deliver) to a “demand-pull” type – that is, driven by PLA requirements, and “ensuring that military end-user needs are being served.”<sup>75</sup> This process was only fully implemented with the creation of the GAD, which gave the PLA leading authority over defense innovation and R&D. In particular, the GAD had the ability to concentrate R&D funding on “select high-priority projects,” with the intended effect of injecting a modicum of competition among R&D institutions when it came to bidding for R&D work.<sup>76</sup>

Another key element of current defense reforms was the creation in July 1999 of ten new “defense industry enterprise groups” (see Table 8.1). Basically, each existing SOE was divided into two new enterprise groups, e.g., AVIC was split into AVIC I and AVIC II, the China Aerospace Corporation was broken into China Aerospace Science & Technology Corporation (CASC) and the China Aerospace Science and Industry Corporation (CASIC), etc. (AVIC I and II would later be reintegrated into a single corporation in 2008). In 2002, an eleventh defense enterprise group, the China Electronics Technology

*Table 8.1* Restructuring the Chinese defense industry, 1999

| <i>Old corporate entity</i>                  | <i>New enterprise group</i>                                  | <i>Major products</i>                                                          |
|----------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------|
| Aviation Industries of China (AVIC)          | China Aviation Industry Corp. I (AVIC I)                     | Fighter aircraft, bombers, transports, advanced trainers, commercial airliners |
|                                              | China Aviation Industry Corp. II (AVIC II)                   | Helicopters, attack aircraft, light trainers, UAVs                             |
| China Aerospace Corp. (CASC)                 | China Aerospace Science & Technology Corp. (CASC)            | Space launch vehicles, satellites, missiles                                    |
|                                              | China Aerospace Science and Industry Corp. (CASIC)           | Missiles, electronics, other equipment                                         |
| China Ordnance Industry Corp. (COIC)/NORINCO | China North Industries Group Corp. (CNGC)                    | Tanks, armored vehicles, artillery, ordnance                                   |
|                                              | China South Industries Group Corp. (CSGC)                    | Miscellaneous ordnance, automobiles, motorcycles                               |
| China State Shipbuilding Corp. (CSSC)        | China State Shipbuilding Corp. (CSSC)                        | Frigates, smaller surface combatants, commercial ships                         |
|                                              | China Shipbuilding Industry Corp. (CSIC)                     | Destroyers, commercial ships                                                   |
| China National Nuclear Corp (CNNC)           | China National Nuclear Corp. (CNNC)                          | Nuclear energy development, nuclear fuel and equipment                         |
|                                              | China Nuclear Engineering & Construction Group Corp. (CNECC) | Construction of nuclear power plants, other heavy construction                 |

Group Corporation (CETC), in charge of defense electronics R&D and production, was formed. These enterprises were supposed to function as true conglomerates, integrating R&D, production, and marketing. In particular, by breaking up the old SOEs, it was hoped that this would encourage the new industry enterprise groups to compete with each other for PLA procurement contracts, which in turn would cause them to be more efficient and technologically innovative.

To combat the endemic tendencies of a statist corporate culture – i.e., “a strong aversion to risk, a lack of competitive instincts, poor motivation, and weak disciplinary practices”<sup>77</sup> – COSTIND, in the late 1990s launched the “Four Mechanisms” campaign. These mechanisms included *competition* (opening up the arms production and procurement process to multiple actors), *evaluation* (improved auditing, costing, appraisal, and assessment of weapons projects), *supervision* (eliminating corruption on the part of the management), and *encouragement* (fostering a better work environment in order to develop a more motivated and innovative workforce).<sup>78</sup>

Finally, China began to seriously pursue the idea of leveraging advanced technologies and manufacturing processes found in the commercial sector in order to benefit defense R&D and production. According to many analysts, such CMI is a central feature of defense industry reform.<sup>79</sup> CMI is viewed as a fast (or at least, faster) and ready means to shortcut the R&D process when it comes to advanced weapons systems; to cherry-pick civilian manufacturing practices in high-tech sectors (e.g., computer-aided design and manufacturing (CAD/CAM), program management tools, etc.); exploit dual-use technologies (e.g., space systems for surveillance, communication, and navigation) to support the military; and, in particular, to take advantage of the latent capabilities found in commercially based IT in order to harness the IT-based RMA. Such civil technologies could be both domestically developed or obtained from foreign sources via joint ventures, technology transfer, or even espionage.<sup>80</sup>

### **Assessing Chinese defense–industrial base reforms**

After decades of false starts and fitful progress, Beijing appears to have finally hit upon the right formula to reform and revitalize its defense industries, and since the turn of the century, China has made significant progress in turning around its long-ailing defense sector. Beginning in the late 1990s and accelerating in the first decade of the twenty-first century, Beijing launched several initiatives intended to inject more market-oriented thinking into the defense industry, including the introduction of more free-market practices, a new emphasis on quality control, and greater oversight by the Chinese military when it comes to procurement and program management. Efforts were also made to rationalize the country's bloated military–industrial complex, laying off excess workers and consolidating production chains. China even injected a modicum of competition, breaking up giant defense SOEs into smaller, contending firms, particularly in the aviation and shipbuilding sectors. At the same time, defense R&D was



ramped up, and the production of several types of relatively advanced weapons systems began to emerge from Chinese factories and shipyards.

The proof that these post-1997 reforms have been at least partly successful is evident in the growing numbers of new types of weapons coming out of Chinese defense factories, armaments that are increasingly of a quality and capability comparable to Western systems. With regard to naval products, these new platforms include: Type-052C/D destroyers; Type-055 cruisers; Type-039 *Song*-class and Type-41 *Yuan*-class diesel-electric submarines; Type-093/-095 nuclear-powered attack submarines (SSNs); Type-094 nuclear-powered ballistic missile carrying (SSNB) submarines; Type-071 landing platform dock (LPD) amphibious warfare ships; in addition, the PLAN has launched at least two aircraft carriers, and more are likely forthcoming. The PLAAF and the PLANAF have acquired a large number of so-called “fourth-generation” or “fourth-generation-plus” fighter aircraft, capable of firing standoff active radar-guided medium-range air-to-air missiles or delivering precision-guided air-to-surface munitions, including the J-11 (locally built versions of the Russian Su-27), J-10, and J-20 jet fighters, and the Y-20 large capacity cargo plane. Similar innovations and improvements have been made in the area of strategic and tactical missiles, UAVs electronics, communications systems, and the like.

All these accomplishments notwithstanding, a number of problems still confront the Chinese defense-industrial base. For one thing, even after taking into account recent efforts at rationalization, the defense sector may still be over-capacitized for its needs in addition to being too compartmentalized to be efficient. Cheung notes that China’s arms industry still suffers from the “widespread duplication and Balkanization of industrial and research facilities,” of “around 1,400 large and medium-sized factories ... scattered across the country, especially in its land-locked interior ... possessing outdated manufacturing and research attributes.” In addition, regional rivalries and “local protectionism” mean that there is “little cooperation or coordination among these facilities, preventing the exploitations of economies of scale and hampering efforts at consolidation.”<sup>81</sup>

Consequently, there still exist critical shortcomings in the Chinese defense industry. In particular, it remains woefully deficient in the area of propulsion systems, including gas turbine engines for its destroyers, marine diesels for its diesel-electric submarines, and, above all, turboprop engines for its combat aircraft. Despite decades of effort, Beijing still lacks the ability to build a suitable jet aircraft engine, and it must continue to purchase engines from Moscow to power its J-10 and J-11B fighters.<sup>82</sup> Similarly, foreign dependencies also persist when it comes to turboshaft engines (for helicopters).

Structural reforms have also failed to produce much in the way of competition. Few arms programs are truly competitive; contracts are spread out among all the major defense firms (e.g., Chengdu builds the J-10, Shenyang produces the J-11B). Even more importantly, most defense enterprise groups are monopoly suppliers, without rivals. The China North Industries Group Corp. (CNGC), for instance, has sole responsibility for all tank, armored vehicle, and artillery

production, while the two successors to the China Aerospace Corporation – CASC and CASIC – have practically no overlaps; CASC specializes in ballistic missiles, space-launch vehicles, and satellites; while CASIC manufactures mainly tactical missile systems, such as surface-to-air missiles, anti-ship cruise missiles, land-attack cruise missiles, and the like.<sup>83</sup> In fact, in 2008, the central authorities took the unusual step of re-merging AVIC I and II back into a single corporate entity, mostly because AVIC II was failing to secure lucrative contracts from China's growing commercial aircraft work.<sup>84</sup> About the only true competition in the Chinese arms industry that appears to exist can be found in the helicopter, trainer jet, and shipbuilding (destroyers and submarines) businesses.

The recent profitability of Chinese defense firms may also be called into question. While these enterprise groups may indeed be in the black, it is unclear how much this is due to purely military-related work, and how much to commercial undertakings. Only a small portion of these defense conglomerates' revenues – around 10 percent to 25 percent of the value of total industrial output – is derived from defense work, and these companies provide no breakdown between profits from commercial work and those from defense contracting. According to Cheung, Chinese arms producers have “long complained” that they have to “struggle” to make money from defense work.<sup>85</sup>

Even China's apparent success with CMI may be less than meets the eye. It has been difficult for the central authorities to entice commercial enterprises into getting into defense work, or to encourage them to partner with defense firms on joint projects that entail diffusing technologies and innovations to the military side. According to Cheung, less than 1 percent of China's commercial high-tech firms are engaged in defense work; consequently, “CMI has so far barely scratched the surface of the Chinese economy.”<sup>86</sup> Impediments to deepening and broadening CMI include (1) weak institutions, mechanisms, and guidelines to promote and support CMI; (2) high barriers between civilian enterprises and the defense market; (3) corporate parochialism on both sides (commercial firms are often overly protective of their intellectual property, while military secrecy makes technology-sharing problematic); (4) insufficient resource-sharing; and (5) underdeveloped industries dedicated to CMI.<sup>87</sup> Overall, civilian firms are still only tangentially engaged in armaments production, and China has a long way to go before it can claim widespread success in implementing CMI.

Lastly, China has experienced only modest success in overhauling the regulation and oversight of the defense-industrial base. The GAD has limited authority when it comes to setting requirements and managing armaments programs. According to Cheung, the GAD only has responsibility for the PLA ground forces, the People's Armed Police, and the militia, while the “navy, air force, and Second Artillery [nuclear weapons] have their own armaments bureaucracies,” and competition between these various agencies for budgetary resources is fierce.<sup>88</sup> This limited impact is perhaps why the Chinese government decided to disband the GAD in early 2016 and replace it with the Equipment Development Department, under the direct authority of the Central Military Commission. For

their part, the “four mechanisms” seem to have had little impact on reforming the corporate culture within the defense industry. Overall, therefore, China’s defense–industrial base remains a heavily statist affair, with armaments production still overwhelmingly situated in mostly non-competitive and largely fire-walled SOEs, protected and nurtured by the central government, and with only modest changes to corporate management style (the major exception being the defense electronics industry, which is more closely tied to its commercial counterparts).

Still, China’s defense–industrial base is certainly much more capable than it was in the late 1990s. The weapons systems coming out of its factories and shipyards are vastly superior to what was being produced less than 15 years ago. Progress in modernizing both armaments as well as armaments production is undeniable; at the same time, production facilities are humming, and the defense industry is turning unprecedented profits. What then are the keys to China’s recent successes as a developer and manufacture of advanced armaments?

Three factors have been perhaps the most critical in this regard: commitment, money, and technology acquisition. In the first place, China’s military–industrial complex has benefited from an unwavering commitment on the part of the national leadership (i.e., both the CCP and the PLA) to modernizing the country’s defense R&D and manufacturing base. Reconstructing and upgrading the national defense–industrial base has been a priority for more than 20 years. This commitment, in turn, has manifested itself in steady and large annual increases in Chinese military expenditures – thus meaning more money for innovation, more money for R&D, more money to increase procurement (and therefore production runs), as well as more money to upgrade the defense–industrial base with new tools, new computers, and new technical skills. China has experienced double-digit real (i.e., after inflation) growth in defense spending nearly every year since the late 1990s. Even according to its own official national statistics, which most expert observers believe substantially understate spending levels, China’s defense budget from 1999 to 2008 expanded at a rate of 16.2 percent *per annum*.<sup>89</sup> Most recently, in March 2015, Beijing announced that it would allocate US\$140.5 billion for defense, an increase of approximately 10 percent over 2014. In March 2015, Beijing announced that it would allocate US\$140.5 billion for defense, an increase of approximately 10 percent over 2014 (in 2016, the defense budget increase was limited to 7.6 percent, although it is too soon to determine as to whether this will be a long-term trend). Overall, since 1997, Chinese military expenditures have increased at least 600 percent in real terms. As a result, since the late 1990s, China has moved up to become the second-largest defense spender in the world, outstripping Japan, France, Russia, and the United Kingdom; only the United States currently spends more on defense.

Arguably, if anything has had a positive impact on the defense industry, it is this explosion in defense spending by increasing procurement (and therefore production); by expanding R&D spending; and by subsidizing the upgrading and modernization of arms-manufacturing facilities. Consequently, China’s defense–industrial base is better suited than ever to absorb and leverage advanced,

militarily relevant technologies and therefore provide the PLA with the advanced military systems it requires.

In addition to greater resources being made available to underwrite armaments production, the acquisition of new technologies – and especially foreign technologies – has had a significant effect on the growth and modernization of the Chinese military-industrial complex. China has undertaken several initiatives in recent decades to advance its military S&T base. These include the 863 Program and the 2006–2020 Medium- and Long-Term Defense Science and Technology Development Plan. Concurrently, it has greatly expanded its S&T education program, training a new generation of defense scientists, engineers, and technicians.<sup>90</sup>

While advancing indigenous defense S&T, China has embarked on an aggressive campaign to acquire and exploit foreign technologies. According to Hannas, Mulvenon, and Puglisi, this process of foreign technology acquisition is part of an unprecedented and aggressive effort, directed by the central Chinese government – a “deliberate, state-sponsored project to circumvent the costs of research, overcome cultural disadvantages, and ‘leapfrog’ to the forefront by leveraging the creativity of other nations.”<sup>91</sup> China, they assert, is engaged in a multi-pronged effort to gain foreign advanced technologies through both legal and illegal means. These include exploitation of open sources, technology transfer and joint research, the return of Western-trained Chinese students, and, of course, industrial espionage (both traditional and, increasingly, cyber-espionage). To prove their point, the aforementioned scholars document a number of cases whereby Chinese intelligence organizations had stolen technology and other defense secrets from the West, which were then ostensibly incorporated (or will be incorporated) into Chinese weapons systems.<sup>92</sup>

Money and technology, of course, go hand-in-hand. Ian Anthony once stated that arms production is a “capital- and technology-intensive industry,”<sup>93</sup> and capital is a critical enabler of technology acquisition. Consequently, more than any structural, organizational, or cultural reform initiatives – or even greater efforts at civil-military integration – China’s success as an emerging producer of advanced conventional weaponry is due mostly to a rather traditional, even prosaic strategy: throwing more money and technology in the service of military modernization. It may be less glamorous than radical reform, but then again, one cannot argue given the accomplishment of such an approach.

At the same time, critical weaknesses remain. The Chinese arms industry still appears to possess only limited indigenous capabilities for cutting-edge defense R&D, and Western armaments producers continue to outpace China when it comes to most military technologies, particularly in areas such as propulsion and defense electronics. Overall, it is still more of a “fast follower,” always playing technology “catch-up,” or otherwise, be a niche innovator when it comes to military R&D. Again, this is not necessarily a bad strategy to pursue. As Hannas, Mulvenon, and Puglisi put it:

China’s genius, as it were, is in putting together a system that capitalizes on its practical skill at adapting ideas to national projects, while compensating

for its inability to create those ideas by importing them quickly at little or no cost<sup>94</sup> to gain asymmetric niche advantages, such as the PLA using an ASBM to attack an adversary's aircraft carriers.

Overall, the Chinese defense-industrial base has made undeniable advancements over the past decade and a half in terms of manufacturing new and relatively modern military systems. So long as the defense budget continues to grow and the Chinese continue to be able to acquire and exploit foreign technologies, this pace of defense development and production will likely quicken in the decades ahead.

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## 9 The business of defense

### The People's Liberation Army and defense–industrial development in China

*Kenneth Boutin*

There is a fundamental tension between China's state defense–industrial model and its industrial reform process. Industrial reforms are undermining the national foundations of the defense–industrial base by generating imperatives that pave the way for integration into transnational production and research and development (R&D) processes. The relative isolation of the defense– and civil–industrial sectors has helped to mitigate concern over the national security implications of industrial reforms, but China's defense/civil industrial divide is eroding. This chapter considers the scope for the People's Liberation Army (PLA) to shape the development of the defense–industrial base in the face of deepening industrial reforms. The PLA is strongly committed to preserving sovereign defense–industrial capabilities and its concern over diminishing autonomy is unlikely to be assuaged by the benefits of industrial reform, however great these may be.

This chapter does not so much seek to present a definitive account of what at this point remains an emerging issue as to provide a framework for understanding the PLA's likely response to threats to the integrity of China's defense–industrial base and to provide an indication of the prospects for its industrial agenda. The scope for the PLA to influence the development of the defense–industrial base will be determined by its evolving defense–industrial requirements, the space provided by political authorities, and the prevailing international security environment. This chapter outlines the key features and consequences of China's industrial reforms before examining the PLA's defense–industrial agenda and its prospects for shaping the development of the defense–industrial base. The chapter concludes by discussing the long-term implications for China's defense–industrial base.

#### **Economic reforms and industrial imperatives**

China's industrial transformation was launched by the economic reform process announced at the Third Plenary Session of the 11th Chinese Communist Party Central Committee in December 1978. The industrial sector was an important focus of attention from an early point in the Reform Era that began at that point, with structural reforms considered crucial to efforts to address shortcomings in

industrial efficiency and the pace of innovation. Reforms have deepened over time, progressively transforming China's industrial landscape. The extent to which China's industrial reforms are tempered by national security requirements is instructive; while reforms are restructuring many facets of the industrial landscape, political authorities seek to limit their impact in important respects.

China's industrial reforms represent bounded liberalization, with selected market measures designed to support sustained economic progress without threatening the central economic role of the state. Imperatives of efficiency and competitiveness in the interest of rendering state-owned enterprises (SOEs) less reliant on state subsidies exert an increasing influence on decision-making at and above the enterprise level. This has led to acceptance of outside investment and privatization. As part of a general shift from direction to guidance, SOEs have been granted considerable operational autonomy, with broad latitude and strong encouragement to be proactive in developing collaborative arrangements with other SOEs, non-state enterprises, and foreign firms.<sup>1</sup> Industrial restructuring is closely associated with and has been pursued in tandem with this "marketization" or "commercialization" of industry. Many SOEs have been sold off or wound up, and those that remain are undergoing a process of "corporatization," under which they are being consolidated into larger, more capable conglomerates.

China's industrial transformation has been very uneven. There are important sectoral differences, with a much more profound transformation in some areas than others. Expectations of competitiveness vary greatly, for example, with a clear distinction between those SOEs that are considered "strategic" or "pillar" industries, and those that are not.<sup>2</sup> Security considerations take precedence in those sectors that were formally categorized as strategic and pillar industries by the State Council in 2006, which include the defense, machinery, and electronics industries. This distinction is reinforced under the reforms introduced since 2013. SOEs now are categorized as "public" (*gongyilei*) or "commercial" (*shangyilai*), based on whether or not their capacity to provide products and services and the stability and efficiency of their operations are considered important enough to outweigh market considerations.<sup>3</sup> Such considerations play a key role in determining the extent and nature of ties with the non-state sector. While benefits in the form of access to advanced technology and familiarization with more efficient production processes strongly encourage collaboration with the non-state sector, what ties are permitted is determined by national security requirements. Decisions on this are by no means static, with the government redefining the boundaries of industrial collaboration as security requirements change.

The role of security considerations in determining the extent of transnational industrial integration is no less significant. Transnational integration in the state industrial sector has deepened over time in tandem with China's industrial development, which has enabled SOEs to contribute more substantially to foreign-led production processes and now R&D, and as maturing capabilities have generated requirements for components, sub-components, and technologies that foreign firms are in a position to supply. Transnational integration can take the form of

mergers and acquisitions of foreign firms, establishing overseas production and R&D facilities, and a host of collaborative R&D and production arrangements, including joint ventures. The offshore engagement of SOEs operating in critical sectors such as aerospace and electronics is relatively limited, but this is compensated for in part by ties to Chinese non-state enterprises, where considerations of economic efficiency and competitiveness drive extensive transnational integration.

China's industrial reforms initially focused on the restructuring and measured introduction of market mechanisms in the state sector, but over time gave rise to the emergence and development of a non-state industrial sector. Non-state enterprises have come to occupy a crucial niche in China's industrial landscape. In many respects they complement the SOEs. Where technology development is concerned, for example, they are helping to offset the state sector's historical pattern of underinvestment in R&D.<sup>4</sup> The importance of the non-state sector is growing as it matures. They often are more dynamic than SOEs and major non-state enterprises such as Huawei and Lenovo maintain extensive R&D and production facilities and collaborate closely with the state industrial sector.<sup>5</sup> The extent of such collaboration obscures the state/non-state enterprise distinction and contributes to the view elsewhere that Chinese non-state enterprises effectively function as SOEs.

### ***Industrial transformation and the defense–industrial base***

Security considerations have ensured that the process of transformation has followed a distinct course where the defense–industrial sector is concerned. Reforms were first instituted in the civil–industrial sector and the transformation remains most pronounced there due to the conservatism of Chinese security actors. Defense SOEs are to some extent exempted from expectations of efficiency and competitiveness due to their focus on meeting the materiel requirements of the PLA. Efficiency and competitiveness are important where commercial arms exports are concerned, but while developing export variants of arms designed in response to PLA requirements is an established practice, the export market is of secondary concern.

While limited in comparison to that of the civil–industrial sector, restructuring of the defense–industrial sector has been no less radical given Chinese security concerns and requirements. The process of defense–industrial reform underway since the 1990s has seen the establishment of ten large conglomerates, including the Aviation Industry Corporation of China (AVIC), China State Shipbuilding Corporation (CSSC), and China North Industries Corporation (NORINCO). Few defense SOEs have been privatized and there is limited outside investment in defense SOEs, with the result that their core activities remain under effective state control, unlike civil SOEs where industrial reforms are undermining state control. There is particular concern over foreign influence and control of defense enterprises; foreign investment in the “manufacturing of weapons and ammunition” in China remains formally prohibited.<sup>6</sup>

There is considerable ambivalence over reform of the state defense–industrial sector. The inconsistent nature of Chinese policy in this testifies to the sensitivity of this issue. It was announced in the early 1990s that foreign investment in defense enterprises would be permitted, for example, but little came from this and in 2007 the Commission on Science, Technology, and Industry for National Defense (COSTIND) introduced formal restrictions on investment.<sup>7</sup> Only recently has there been any substantive progress toward opening up the sector. Defense SOEs now are permitted to seek outside investment, but only in cases where their activities are not deemed too sensitive and where safeguards are in place to protect their operations.<sup>8</sup> Unsurprisingly, the more notable examples of foreign investment feature states that pose no security threat to China.<sup>9</sup> A similar pattern applies to the non-state sector. The Chinese government has permitted foreign investment in non-state enterprises undertaking defense-related activities since the early 2010s, but proposed acquisitions and mergers are subject to review in order to ensure Chinese security interests.<sup>10</sup>

Security considerations will continue to impede the integration of defense SOEs into transnational production and R&D processes. This reflects efforts to insulate them from the negative effects of market trends and developments as well as to shield them from the attentions of hostile state actors. Where defense SOEs engage in transnational R&D and production, this generally is highly asymmetrical and restricted to programs in which they exercise a leading role, even where the programs concerned are commercial in nature.<sup>11</sup>

The importance of the civil–industrial sector to the defense–industrial base is increasing as a result of China’s economic reforms, which are producing industrial processes that transcend the civil/defense–industrial divide. This goes well beyond the “civil–military integration” (CMI) that has been promoted since the 1980s, initially with economic objectives in mind and which has been the subject of renewed attention in recent years.<sup>12</sup> The negative effects on efforts to develop more efficient and dynamic enterprises resulting from the more measured implementation of reforms in the state defense–industrial sector is being offset in part by drawing on the civil SOE sector. Civil SOEs serve as a crucial vehicle for the defense industry to engage transnational industrial processes without high political costs for China.<sup>13</sup> Their capacity to fulfil this role, including by serving as a conduit for technology transfer to China, is growing as industrial integration within China deepens.

The contribution of the non-state industrial sector to defense–industrial capability development in China also is important. Non-state enterprises generally represent important sources of innovation, as noted above, and in some cases now undertake defense-related R&D and production on their own account. Non-state defense enterprises emerged and have developed independently of state direction, as a corollary of their emergence and development in other fields as state controls were relaxed. At this stage, non-state defense enterprises such as Shaanxi Baoji Special Vehicles are far more prominent as arms exporters than as suppliers to the PLA, but their contribution is growing and has great potential over the long term.<sup>14</sup> The extent of private investment

in defense manufacturing has led some observers to conceptualize a Chinese “military–industrial complex.”<sup>15</sup>

The official position on the non-state sector has evolved considerably over the past two decades. Ambitious materiel requirements and shortcomings in the performance of defense SOEs encourage efforts to draw on non-state enterprises. Chinese authorities endorsed the emergence and development of a non-state defense sector after considerable initial hesitation, with formal approval for private sector participation in defense–industrial activities only being granted in the early 2000s. As has been the case with many facets of industrial policy in the Reform Era, the incremental pattern of policy initiatives suggests the absence of a systematic strategy. Official support has increased under President Xi Jinping, with defense SOEs now strongly encouraged to draw on the non-state sector.<sup>16</sup> Consolidation in the defense SOE sector is being pursued in part with this objective in mind.<sup>17</sup>

The transformation of the industrial landscape constitutes a mixed blessing for China, greatly complicating its defense–industrial agenda. While the prospective enhancement of China’s defense–industrial capabilities augurs well for efforts to supply the advanced arms required by the PLA as it modernizes, transnational industrial integration comes at a high cost in terms of defense–industrial autonomy, which is only partly offset by the advantages of drawing on offshore industrial assets. China’s defense–industrial structure now extends beyond its borders and encompasses actors that have not traditionally been regarded as part of its defense–industrial base. This includes American subsidiaries of Chinese enterprises and foreign firms that are integrated into American-led production networks.<sup>18</sup> The relative isolation of civil– and defense–industrial processes and the obvious advantages of drawing on offshore industrial assets alleviated concern on the part of the PLA and other concerned actors in the past, helping them to avoid making difficult decisions, but the scope for doing so is diminishing as China’s industrial transformation progresses and state/non-state and defense/civil industrial distinctions erode. The PLA’s dilemma is daunting, involving as it does conflicting imperatives of capability development and autonomy. Such tensions are not new to China, but are increasing as industrial reform deepens and are exacerbated by the general politicization of economic relations by American authorities concerned by the national security implications of industrial ties with China.

The PLA is confronted by this dilemma as the performance of China’s state defense–industrial sector continues to disappoint. Defense–industrial reform has yielded mixed results. Restructuring and the granting of greater operational independence have contributed to China’s defense–industrial development, but progress has been more modest than expected in terms of the quality of the arms supplied by Chinese industry.<sup>19</sup> As well as reinforcing the importance of the non-state sector, this has necessitated continued reliance on imported components such as turbofan engines and even complete aircraft from suppliers such as Russia. It is far from certain how the PLA will address this dilemma.



### **The PLA as an industrial actor**

The PLA is an engaged actor where its materiel requirements are concerned and fulfils important direct and indirect defense–industrial roles. Defense–industrial policy is not the exclusive domain of the PLA, however, and it is not in a position to dominate decision-making in this area. The PLA does make common cause with other key policy actors which remain wary of defense–industrial dependence on other states and support self-reliance as a result.<sup>20</sup> This includes the State Administration for Science, Technology and Industry for National Defense (SASTIND) and the Ministry of Science and Technology.<sup>21</sup> The PLA’s interests align far less with those of the Ministry of Commerce, which supports transnational industrial ties as a means of industrial upgrading. Broad consensus on the importance of autonomy issue reflects long-standing concern over the implications of economic vulnerability, which is not limited to the defense–industrial sector. The importance attached to this reflects the prominence of realist views throughout China’s policy community.<sup>22</sup>

The division of labor in China’s defense–industrial system has remained quite stable over time, taking into account organizational reforms, but the transformation of the policy environment is providing increasing scope for bureaucratic actors to contribute to important policy debates. This enables the PLA to weigh in on issues of concern.<sup>23</sup> Its demanding agenda provides the impetus for its efforts to seek to strengthen its influence over defense–industrial processes. The need to balance requirements of capability development and autonomy in the present environment requires engaging issues of a structural nature, which constitutes a notable shift for the PLA. The PLA traditionally has approached defense–industrial issues in a much more limited context, as part of its logistical infrastructure.<sup>24</sup>

The imperatives driving the PLA’s perspective on the defense industry are quite conventional; security actors generally consider it crucial to develop and maintain the means of securely supplying the armaments (arms) required by their defense establishments. This generally drives efforts to develop comprehensive national capabilities in industrial sectors deemed “strategic” and often is accompanied by concern over the terms under which arms are supplied by national defense industries, resulting in interest in procurement reform in an effort to develop more efficient processes of developing and producing arms. Both are evident in the case of China, where there is considerable tension between the core requirements of obtaining arms on acceptable terms of capability and cost, and promoting defense–industrial autonomy. The central problem for the PLA is how to manage these often-conflicting requirements.

The PLA’s arms requirements derive from its ambitious modernization program, which has been underway since the late 1970s and is supported by the current 2006–2020 Medium- and Long-Term Defense Science and Technology Development Plan (MLDP). The underdevelopment of the PLA resulting from resource constraints and its relative isolation between the early 1960s and late 1970s generates formidable requirements that contribute to the protracted pace

of defense modernization in China. Although China has made impressive strides in developing its defense–industrial capabilities over the past few decades in an effort to implement what is referred to locally as “the revolution in military affairs with Chinese characteristics,”<sup>25</sup> it continues to rely on other states for crucial developmental benchmarks and key technological, component, and sub-component inputs. The contribution of foreign states varies greatly: China relies on states such as Russia and Ukraine for components and sub-components, while the United States is the source of many of the standards that inform Chinese developmental efforts. Direct and indirect access to offshore industrial assets through engagement of transnational industrial processes will remain important to the development and production of advanced arms in China for the foreseeable future.

The importance attached to defense–industrial autonomy by the PLA stems from concern over the availability of arms from foreign suppliers, particularly during periods of heightened international tension and conflict. Such concerns are noticeably acute in China, which struggled to overcome Soviet efforts to keep it militarily dependent during the 1950s and found itself deprived of its sole external source of arms following the breakdown of relations with the Soviet Union in the early 1960s.<sup>26</sup> The importance of defense–industrial autonomy can only have been reinforced by the arms sanctions imposed by the United States and the European Union in the wake of the Tiananmen Incident of 1989. The importance of defense–industrial autonomy to the PLA did not diminish with the end of the Cold War and its attendant lessening of inter-state tensions. If anything, concern over the capacity of Chinese industry to meet the materiel requirements of the PLA has grown more acute as its modernization program has accelerated. Not only is it the case that the PLA requires increasingly advanced arms as it seeks to narrow the qualitative gap with major powers such as the United States, but it also requires these arms in quantity as it strives to replace the substantial arsenal of obsolete and obsolescent arms in its service.

China’s industrial transformation constitutes a mixed blessing for the PLA. While this enhances the prospects for supplying the arms required by the PLA as it modernizes, this simultaneously threatens China’s defense–industrial autonomy in important respects.<sup>27</sup> This is reflected in the PLA’s position on the restructuring of China’s industrial landscape, which is somewhat ambivalent. Foreign investment in Chinese high-technology enterprises and reliance on foreign industry for critical components and sub-components are highly problematic from its perspective. The restrictions imposed on collaboration with foreign industry and the way that the level of foreign content is factored into arms procurement decisions demonstrate the depth of concern on the part of the PLA and other policy actors, which strive to limit the exposure of the defense–industrial base to market forces and to maintain close control of what they regard as crucial industrial operations.<sup>28</sup>

The PLA does stand to benefit from industrial transformation through its potential to help offset the shortcomings of defense SOEs, such as a weak capacity for innovation and poor quality control standards. There is considerable

tension between the PLA and Chinese industry over the quality of its designs and its production standards.<sup>29</sup> Recognition of the potential contribution of non-state enterprises to its defense modernization efforts is leading the PLA to develop mechanisms for supporting non-state defense enterprises, despite its strong grounds for concern.<sup>30</sup> It has also been exploring means of more effectively drawing on non-state enterprises. In this the PLA is breaking new ground. A number of initiatives intended to facilitate drawing on the non-state sector have been launched since 2012, including introducing a system for them to tender for procurement contracts.<sup>31</sup>

It is important to bear in mind that defense-industrial autonomy in China is relative, rather than absolute, at the present time. Rather than seeking to bar transnational integration in high-technology industrial sectors altogether, authorities in China seek only to limit this.<sup>32</sup> The PLA and other concerned actors do not approach defense-industrial autonomy in terms of complete isolation from offshore industry. Instead, they strive to minimize the extent to which Chinese industrial processes are dependent on foreign support. Where foreign components and sub-components are used this is approached as an interim measure pending the availability of acceptable local products. This helps to account for the pattern of asymmetric and to some extent opportunistic industrial ties with other states. In critical high-technology sectors such as aerospace, for example, transnational industrial integration is encouraged only to the extent that it benefits China. Defense-industrial autonomy remains an important if elusive goal, notwithstanding determined efforts over the course of recent decades.

The PLA has a strong interest in shaping the development of the defense-industrial base so that it effectively supports its objectives, but faces a daunting challenge in pursuing its demanding agenda in China's complex industrial environment. The importance attached to both defense-industrial capability development and autonomy ensures that neglecting either of these objectives is not a practicable option at this point. Promoting autonomy while supporting development of capabilities for the development and production of advanced arms through exploiting the opportunities provided by transnational industrial processes is proving manageable for the present, as the PLA has been able pursue these objectives largely independently of each other thanks to the relative isolation of the defense- and civil-industrial sectors. Balancing these requirements will prove a much more difficult exercise as the tension between them grows, however. This tension can only increase given industrial trends and the PLA's efforts to draw more heavily on non-state enterprises.

The PLA's balancing of its conflicting defense-industrial requirements involves arriving at what is regarded as an acceptable trade-off between them. This is far from a straightforward exercise and can present the PLA with difficult choices. This is manifest in the shifting balance between capability development and autonomy over time in response to evolving requirements and changing domestic and international conditions. The less threatening security environment at the present time facilitates a more even balance between capability development and autonomy than at times in the past, but it cannot be assumed that this will continue.

The PLA's crucial role and relative independence as a security actor endow it with a greater capacity to influence policy than its formal position within the policy structure suggests.<sup>33</sup> The PLA demonstrates considerable initiative in the pursuit of its defense-industrial agenda. On occasion, it has embarked on courses of action that were unintended and unanticipated by political authorities. The PLA has strayed beyond its defense-industrial mandate at times in the past, for example, by exporting arms on its own initiative and by engaging in non-defense related commercial activities.<sup>34</sup> Activities of this nature were facilitated by regulatory lacunae, which ultimately were addressed by political authorities.<sup>35</sup>

Defense-industrial development in China is not driven exclusively by military requirements and no single authority is entirely responsible for managing the defense-industrial base. The PLA contributes through helping to set the defense-industrial agenda and in defense-industrial governance. The importance of the PLA is increasing as it strives to ensure that its requirements are met.<sup>36</sup> It shares responsibility with a number of policy actors. SASTIND, which falls under the Ministry of Industry and Information Technology (MIIT), plays an important role in governing the defense-industrial sector, for example, while MIIT itself is responsible for administering defense as well as civil SOEs.<sup>37</sup>

The PLA has a number of direct and indirect channels for influencing defense-industrial development. These include its presence in a number of important policy bodies and access to senior political leaders.<sup>38</sup> The General Armament Department (GAD), which as its procurement agency served as the primary vehicle for the pursuit of the PLA's materiel requirements, also provided an important means for the PLA to contribute to industry-related policy debates as well as an important industrial governance mechanism for the PLA.<sup>39</sup> While the GAD is being disbanded under the procurement reforms announced in January 2016,<sup>40</sup> the capacity of the PLA to influence the defense-industrial base will continue through the arrangements developed to supplant those of the GAD. The influence of the PLA is enhanced by virtue its role in defense R&D and production processes.<sup>41</sup>

The impact of the redistribution of the GAD's responsibilities across various branches of the PLA is unclear at this point. This will not necessarily undermine the PLA's effectiveness as a defense-industrial actor, though it threatens to render policy coordination more difficult. Policy coordination potentially will suffer as the branches of service that constitute the PLA pursue their parochial interests, competing over arms priorities and for the resources necessary to pursue them. Despite this, it remains possible to consider the PLA as a unitary actor where its general defense-industrial interests are concerned as the importance of both capability development and autonomy are recognized across the PLA services. The increased scope for inter-service competition over resource allocation and procurement priorities resulting from a less centralized procurement process may affect the PLA's effectiveness in pursuing its defense-industrial agenda, however.

Where the non-state defense sector is concerned, the PLA's influence is growing as well, but this remains underdeveloped compared to the state sector.

While arms exports, including arms-related technology transfers, are subject to state control (with varying degrees of effectiveness) and a number of non-state enterprises have strong ties to the state sector, they operate with relatively little oversight. The PLA's capacity to engage the non-state sector is increasing as the importance of non-state enterprises to the PLA grows and it seeks to develop effective means of supporting and harnessing their capabilities, such as through funding defense-related R&D.<sup>42</sup> Reforms initiated to improve the capacity of the PLA to draw on the non-state sector serve to strengthen its influence. The PLA's power to determine which enterprises may participate in the domestic defense market through its process of certification provides it with considerable influence over non-state enterprises, for example.<sup>43</sup> The degree of influence exercised by the PLA is likely to increase as the importance of the domestic defense market to non-state enterprises grows.

The PLA has considerable influence beyond that deriving from its institutional capacity. This stems from the importance of the internal market for defense-related goods and services for state and non-state enterprises alike that is provided by the PLA. It possesses considerable structural power by virtue of its dual capacity as a major actor in the arms development and production system and as the principal customer for these arms.<sup>44</sup> Where military vehicles are concerned, 96 percent of Chinese production is destined for the PLA.<sup>45</sup> The PLA's role in setting technical standards in areas such as electronics serves as an important vehicle for influencing industry.<sup>46</sup> The PLA also has considerable influence across the aerospace sector.<sup>47</sup> Its influence has grown as it has become less reliant on single-source suppliers.<sup>48</sup> This provides the PLA with considerable capacity to influence the terms of industrial relationships with offshore capability partners.

### **Defense–industrial development and the PLA: a framework for assessment**

While the potential of the PLA to influence the development of the defense–industrial base in the pursuit of autonomy is considerable, in practice this depends on a number of factors. The PLA's capacity to help shape the course of defense–industrial development in China will be determined by its defense–industrial requirements, the space that is provided by political authorities in China, and the prevailing international security environment. These factors are variable and are closely related. The PLA's defense–industrial requirements and the space provided by political authorities both are determined in part by the prevailing international security environment, which itself is influenced by China's pursuit of security, including through its defense modernization program.

#### ***The PLA's defense–industrial requirements***

Both the capacity of the defense–industrial base to meet its increasingly demanding materiel requirements and to support it regardless of exogenous political and

economic threats will remain important to the PLA, and it will seek to pursue both objectives, but as noted above, there is considerable tension between these objectives. This may render it impossible for the PLA to maintain the balance that has characterized its approach throughout the Reform Era, forcing it to prioritize its defense-industrial objectives to an extent that it has been able to avoid for some time.

The scope for the PLA to help shape the development of the defense-industrial base will be determined by how it seeks to balance the requirements of capability development and autonomy. The prioritization of autonomy will produce the greatest impact on the defense-industrial base. The PLA can be expected to seek to strengthen its efforts to promote autonomy should its concern over the threat posed by transnational industrial integration to the integrity of the defense-industrial base grow. This involves two distinct facets. The first is where the development of industrial linkages results in the “hollowing out” of Chinese defense-industrial capabilities, as the enterprises upon which the PLA relies for crucial products and services themselves come to rely on offshore capability partners for crucial inputs. Concern over this issue potentially extends to the non-state sector as it comes to figure more prominently in PLA planning. Any erosion of local defense-industrial capabilities may be offset, at least in part, by the development and acquisition of offshore capabilities by Chinese enterprises, but this is unlikely to mitigate PLA concerns due to the difficulties involved in exercising effective control over offshore facilities and their vulnerability to the governments of the states concerned.

The second issue is that of the United States. The PLA regards the United States as the “most formidable potential adversary” of China.<sup>49</sup> This has major implications given the importance of ties with American industry to Chinese enterprises, particularly in high-technology industrial sectors. As a result, the PLA can be expected to be particularly sensitive to the general state of Sino-American relations and to developments in the United States that affect Chinese defense-industrial interests. The PLA cannot but note the propensity of American authorities to approach economic relations with China in national security terms. This is manifest in industrial governance mechanisms such as the Committee on Foreign Investment in the United States (CFIUS), which reviews and can block or set conditions on investment in critical industrial sectors, and the willingness of the American government to employ economic sanctions as statecraft. The state of Sino-American economic ties has been the subject of increasing American attention for some time, and this has escalated under President Donald Trump. China is subject to investment restrictions and sanctions, and the American government punishes American firms that contravene restrictions on collaborating with Chinese industry.<sup>50</sup>

The depth of the PLA’s concern over industrial ties with the United States is manifest in its practice of seeking to avoid the use of critical American-produced components and sub-components in the arms produced for it, wherever possible. The lack of concern over the use of imported components and sub-components from states that are members of the European Union, which also has imposed an



arms embargo on China, is noteworthy. Concern over the contribution of American industry to arms produced in China is most readily apparent in the aerospace industry, but is evident in the electronics industry as well.<sup>51</sup>

The shortcomings of China's defense-industrial base render it difficult to entirely dispense with American components and sub-components in the near term, but the PLA can be expected to pay increasing attention to transnational processes involving Chinese non-state enterprises to ensure that these do not involve undue reliance on American industry or provide the American government with a capacity to influence or control the activities of Chinese enterprises. The PLA can be expected to make determined efforts to set boundaries for inter-firm arrangements, particularly in terms of production arrangements. The importance of ties to American high-technology industry suggests that this will most likely involve establishing boundaries of engagement that are permeable, rather than absolute, in order to provide scope for what are regarded as positive forms of engagement to continue. This is likely to include developing stronger industrial governance mechanisms.

The PLA has considerable scope to influence the development of the defense-industrial base through its efforts to promote autonomy. This generally serves to impede the development of defense-industrial capabilities by limiting the capacity of Chinese enterprises to derive as much benefit as they might from ties with offshore industry. The importance attached to defense-industrial capability development by the PLA means that this has significant long-term implications for its modernization program, given the state of Chinese industry and the PLA's materiel requirements. The stronger the emphasis on autonomy, the greater the impact this will have on the development of the defense-industrial base. This will encourage the PLA to maintain its current capability development/autonomy balance as long as possible, at least until such time as China's industrial development renders ties to offshore industry far less important than they are at present.

### *The space provided by political authorities*

The scope for the PLA to influence the development of the defense-industrial base is determined in large part by the space provided by political authorities in China. While the PLA is not alone in its concern over the national security implications of transnational industrial ties, the interests of other key policy actors diverge from those of the PLA in important respects. There is inherent tension between the distinct requirements of defense-industrial autonomy and transnational industrial integration in the interest of economic competitiveness. The friction between them has been mitigated in the Reform Era by the scope that exists for pursuing them in parallel without impacting on each other unduly, but this scope is diminishing. This is in part a product of China's complex economic security agenda, which drives support for transnational economic integration in terms of both production and R&D. Heightened attention to the autonomy of key industrial sectors comes at a point where economic security is more of an



issue than it has been since the beginning of the Reform Era. This renders accommodating the requirements of defense-industrial autonomy much more difficult to manage than in the past, particularly given their structural implications.

Political authorities can be expected to weigh in on this issue as a result. Of particular importance in this is the perspective of China's paramount leader, who is in a position to determine policy priorities and decide between competing interests. This is unlikely to result in sacrificing either defense-industrial autonomy or transnational industrial integration in the absence of an acute threat, but will involve determining the relative importance of the two. This will not prove a straightforward exercise as this must be considered in the context of the broader framework of economic security in China. China's leaders are engaged in a balancing exercise of their own. This concerns the economic requirements of national and societal security. The latter generates developmental ambitions that involve Chinese industry progressing beyond serving as "workshop to the world." To this end, political authorities in China are promoting deeper integration into transnational industrial processes. The objective of developing China into an advanced economy based on technology-intensive industries drives an industrial program based on the introduction of market mechanisms and integration into the global economy within the framework of "market socialism."<sup>52</sup>

While the requirements of industrial and defense-industrial development overlap, the prioritization of autonomy is recognized as threatening efforts to promote sustained industrial development in China. Efforts by the PLA to promote the development of more autonomous defense-industrial capabilities run counter to China's industrial transformation program. This stems from the potential to undermine the capacity of enterprises, particularly those in the non-state sector, to develop through ties to foreign industry. Entrepreneurship, innovation, and efficiency are all threatened by efforts to restrict inter-firm collaboration. Limiting the capacity of enterprises to work with foreign capability partners reinforces the established international division of labor, rather than facilitating the rise of Chinese enterprises within it by building on relationships with foreign firms, as has occurred during the Reform Era. The impact of this likely will be greatest in high-technology industrial sectors, which are both more sensitive from a defense-industrial perspective and the sectors where ties to foreign industry are most important. This will tend to discourage support for heightened attention to the requirements of autonomy. Political authorities will be most concerned about high-technology sectors such as aerospace and electronics, where the imperatives of integration are strongest and which are the most sensitive from a national security perspective.

The Chinese government's perspective can be expected to be informed by the potential structural impact of efforts by the PLA to advance its defense-industrial agenda. Defense requirements have at times influenced the broader course of economic development.<sup>53</sup> The PLA has both a strong incentive and a strengthening capacity to help shape the general course of industrial development in China. Its defense-industrial requirements encourage the PLA to look beyond the state and non-state enterprises that constitute China's

defense-industrial sector in seeking to determine the extent and terms of integration into transnational industrial processes. The PLA has significant potential to shape industrial development in China over the long term as a result. This is likely to involve a particular focus on inter-firm arrangements with American industry, given the security perspective of the PLA. While the threat that this poses to the capacity of China's defense-industrial base to meet the PLA's arms requirements over the long term encourages moderation in the pursuit of autonomy, measures implemented in an effort to limit the vulnerability of the defense-industrial base to exogenous political and economic influences threaten efforts to promote industrial development in China, particularly where high-technology industrial sectors are concerned. The potential for this is facilitated by China's opaque foreign investment regime, which provides considerable scope for the PLA to help shape decisions on industrial ties between Chinese SOEs operating in strategic industrial sectors and foreign firms.

The PLA's room for maneuver in pursuing its defense-industrial agenda is limited by the developmental objectives of China's political leaders. The extent of overlap between the civil- and defense-industrial sectors and the potential impact on the former of heightened attention to the requirements of autonomy ensure that political authorities will be unable to avoid addressing the issue. The aerospace industry, for example, is regarded as "strategic" for both the economy and national security.<sup>54</sup> This encourages political authorities to carefully consider the space provided to the PLA, rendering it more difficult for the PLA to attempt to shape the course of industrial development. The space provided to the PLA and other concerned actors will be determined by the relative prioritization of varied national and economic security objectives. This will itself depend in part on the state of the international security environment, but the demands of economic development generally will encourage political authorities to temper efforts by the PLA to promote defense-industrial autonomy. This is particularly the case where the non-state sector is concerned.

The space provided for the pursuit of the economic requirements of national security has shifted over time. Economic considerations have traditionally figured into decision-making on defense issues in China, but the form that this has taken and the effect that this has had have varied considerably. Overall, however, the economic confines set by China's political leadership have provided the bounds within which the PLA has been able to operate.<sup>55</sup> This demonstrates the capacity of political authorities to determine the manner and extent to which security considerations inform economic policy. The space provided for the PLA for the pursuit of its defense-industrial agenda can be expected to expand should the prevailing international security environment grow more threatening from the perspective of China's leaders.

### *The international security environment*

The prevailing international security environment affects the scope for the PLA to help shape the development of China's defense-industrial base though its

effect of influencing both the general level of support for defense R&D and production and the policy emphasis. This is the case with respect to both political authorities in China and the PLA. The state of the international security environment is crucial to the importance attached to the procurement of advanced arms. Increased concern over national security resulting from heightened inter-state tension encourages attention to both capability development and autonomy, but not necessarily in equal measure. Concern stemming from the emergence or development of a distinct threat may produce a particular emphasis on capacity development or autonomy, depending on the nature and imminence of the threat. Security threats that are emerging gradually generally encourage greater attention to the issue of defense-industrial capability development, while security threats of a more pressing nature generally encourage greater attention to short-term security requirements. This often takes the form of a marked emphasis on self-reliance in the interest of ensuring the availability of arms in the event of a conflict.

The effect that trends and developments in the international security environment can have on approaches to the defense-industrial base is readily apparent in China. While Chinese defense-industrial policy is characterized by sustained interest in both capability development and autonomy, the general level of attention to defense-industrial base requirements and the policy emphasis have shifted over time. The nature and imminence of national security threats affect the relative importance attached to defense development in China and the extent to which Chinese authorities are prepared to compromise societal security requirements in the pursuit of national security. The requirements of economic development have competed with those of defense development since the establishment of the People's Republic in 1949. The resources required for economic and defense development and the fact that general processes of industrial development cannot fully satisfy China's defense-industrial requirements have meant that the Chinese government has not been able to entirely avoid making difficult decisions in choosing between them. The state of the international security environment has played an important role in determining the policy emphasis.

Changes in the international security environment have contributed to failure of China's defense-industrial base to develop in an entirely linear manner. The pattern of defense-industrial policy in China is instructive; the policy emphasis has shifted over time in response to the changing nature and urgency of the perceived threat posed by other states. While Chinese authorities have a strong interest in balancing capability development and autonomy, pressing international security threats have produced a strong prioritization of the self-reliance. During the Cold War, for example, the state of the international security environment made possible the decade-long "Third Front" program. This initiative, which was launched in the late 1960s, saw defense-related R&D and production facilities dispersed to remote areas of central China in an effort to reduce their vulnerability to attack.<sup>56</sup> In this case, the deterioration of relations with the Soviet Union reached the point where it was regarded as constituting an imminent threat to the security of China, generating concern over the vulnerability of

Chinese industry. Transnational industrial integration was not an issue here, but this demonstrates the extent to which Chinese authorities were prepared to go to protect the integrity of the defense–industrial base. In the wake of the breakdown of relations with the Soviet Union, China redoubled its defense–industrial development efforts as it sought self-sufficiency in all areas of conventional arms and undertook the development of nuclear arms.

The general importance of defense modernization declined following Sino–American *rapprochement* in the 1970s. This shift was reinforced by the elimination of the Soviet threat with the end of the Cold War. The transformation of China’s security environment paved the way for greater attention to the requirements of general industrial development and to capability development where the defense–industrial base is concerned. It is noteworthy that defense modernization ranked last among Deng Xiaoping’s relaunched “Four Modernizations” program in 1978, with defense SOEs encouraged to shift to non-defense activities in support of China’s economic development.<sup>57</sup> The Reform Era has been characterized by progressively greater compromise of the objective of defense–industrial autonomy as economic reforms and transnational industrial integration have deepened. China’s much more favorable international security environment has served to reduce the level of concern over the national security implications of transnational industrial integration and has encouraged a much stronger focus on China’s economic development, producing a domestic environment inimical to any measures that would threaten this.

The United States occupies an important position in Chinese considerations of the international security environment. The United States has traditionally been regarded by conservative policy actors in China, including the PLA, with considerable suspicion. There is particular sensitivity to what is perceived as the politicization of economic relations by the United States. This cannot but be reinforced by what are regarded as inconsistent and discriminatory investment restrictions targeting Chinese enterprises in the United States.<sup>58</sup> The state of relations with the United States impacts on the PLA perspective on industrial integration and no less significantly, on the potential level of support for any effort on the part of the PLA to prioritize defense–industrial autonomy. President Xi has demonstrated great concern over the United States, most notably in terms of its regional defense initiatives.

### **Whither China’s defense–industrial base?**

The PLA will continue to pursue an ambitious defense–industrial agenda in support of its modernization program, with significant implications for the development of China’s defense–industrial base. The PLA’s agenda will require more extensive and frequent intervention in industrial processes. The long-term impact of this will be determined by the PLA’s success in promoting defense–industrial autonomy, which can be expected to constitute a greater focus of its efforts as the transnational integration of Chinese high technology deepens. The importance attached to this will encourage the PLA to seek to set the terms of transnational

industrial engagement so as to minimize the national security threat involved. Restricting transnational integration in high-technology industrial sectors has important long-term consequences for China's defense-industrial development, potentially impeding its progress by limiting the extent of industrial reforms and damaging the prospects for industry to draw on offshore industry for advanced technology and other important inputs.

This has an impact as well through its potential to affect how political authorities elsewhere approach industrial relations with China. As well as restricting the capacity of and enterprises to work with foreign capability partners, tighter control by China over the activities of non-state enterprises will further blur the distinction between the state and non-state sectors, reinforcing the common view that all enterprises in China are under effective state control. This perspective encourages political authorities in the United States and elsewhere to treat them as such. The increased securitization of industrial ties with other states that results is not conducive to China's industrial development program.

The structural implications are no less significant. China's defense-industrial model is shifting from a state architecture to one that is more of a hybrid of state and market, albeit one in which the state sector is predominant. In the process, China's defense-industrial base is becoming less national. While its defense-industrial base still largely is national in that its principal assets are situated within China, this increasingly encompasses offshore R&D and production capabilities through state and non-state enterprises. This transformation, which is restructuring the means by which arms are developed and produced for the PLA, is threatened by the pursuit of defense-industrial autonomy. Much will depend here on the nature of any governance mechanisms introduced in the interest of limiting vulnerability to exogenous political and economic threats. That the PLA will seek to develop its capacity for industrial governance seems likely. Its efforts to draw on the non-state sector highlight the importance of this. If efforts by Chinese authorities to develop means of governing the civil-industrial sector are any indication, however, this will prove a difficult process, and it is by no means clear what form new governance mechanisms will take.

Defense industrialization in China is an ongoing process and endogenous and exogenous trends and developments will continue to influence its course. The tension between the PLA's requirements of defense-industrial capability development and autonomy will increase over time as economic restructuring in China progresses and the integration of Chinese industry into transnational production and R&D processes deepens. Attempting to balance these conflicting requirements will require close attention to the defense/civil-industrial nexus and careful consideration of which sovereign capabilities are most important to maintain as the PLA strives to safeguard the autonomy of the defense-industrial base. Tension with political authorities may increase in the process.

The role that the PLA fulfils in influencing defense-industrial development raises important questions about the broader issue of its contribution to China's industrial development. Many facets of the civil/defense-industrial nexus in China remain poorly explored, including the long-term impact of efforts to

promote sovereign defense–industrial capabilities. It is important that defense–industrial development not be examined in isolation from general industrial trends as a result.

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